(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
24 July 2003 (24.07.2003)

PCT

(10) International Publication Number
WO 03/061195 A1

(51) International Patent Classification[7]: H04L 12/00, G06F 17/30

(21) International Application Number: PCT/KR03/00010

(22) International Filing Date: 4 January 2003 (04.01.2003)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2002-0000410 4 January 2002 (04.01.2002) KR
10-2002-0078886 11 December 2002 (11.12.2002) KR

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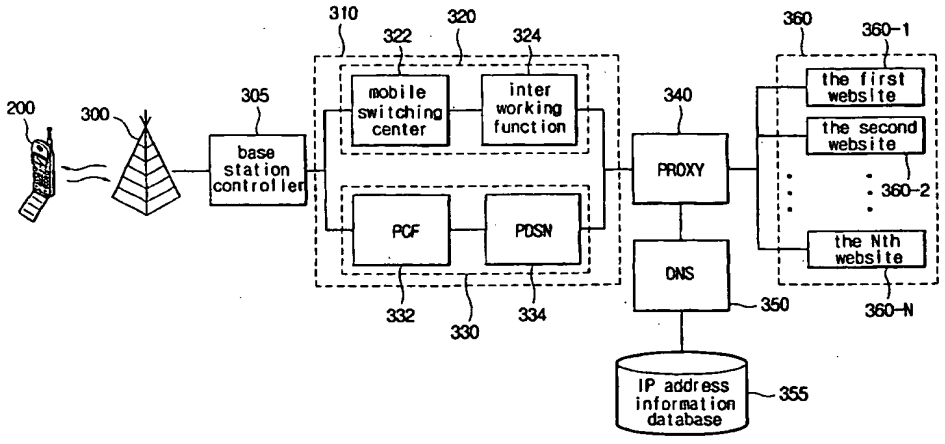
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*[Continued on next page]*

(54) Title: METHOD AND DEVICE FOR PROVIDING ONE BUTTON-SERVICE IN MOBILE TERMINAL




(57) Abstract: The present invention relates to a method and device for providing one button service in a mobile terminal, and more specifically relates to a method and device for providing phone service, internet service, and search service by pressing only one button. In other words, the present invention relates to a method and device that can provide data service conveniently as a conventional voice call since the user need only connect to a website by inputting numbers, codes and the like and then pressing one button or alternatively conveniently input a character by operating one button. Also, the present invention can provide search results according to the search word in relation to location-based services. Also, the present invention relates to the mode of the mobile terminal that is converted to character input mode in accordance with the user's operation of input mode conversion button mounted on the mobile terminal. In this mode if the user inputs a character and operates the call request button or data service button, the mobile terminal conducts call connection, i.e., connection with web server or location based services (LBS).

WO 03/061195 A1

**Published:**
— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# METHOD AND DEVICE FOR PROVIDING ONE BUTTON-SERVICE IN MOBILE TERMINAL

## Technical Field

The present invention relates to a method and device for providing one-button service in mobile terminal and more specifically, relates to a method and device for providing phone service, internet service, and search service by pressing only one button. That is the present invention can provide these services by inputting a search word and pressing one button.

In other words, the present invention relates to a method and device that can provide data service conveniently like conventional voice calling since a user not only can connect to a website by inputting numbers, codes and the like and then pressing one button, but the user can also input characters conveniently by operating one button.

Therefore, according to the present invention, the mode of the mobile terminal is converted to a character input mode in accordance with the user's operation of the input mode conversion button mounted on the mobile terminal. In this mode, if the user inputs characters and operates the call request button or data service button, the mobile terminal conducts voice calling, connection with web server and location based services (LBS) in accordance with the operation of the button.



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Background Art

As data communication technology has developed, a super high speed internet has been established, allowing more and more users to become internet friendly by using the internet. This internet includes free and fee-based websites that provide various information to us. For example, homepages introduce their companies and advertise, fee-based websites charge for information such as information of stock brokerage advice, and internet shopping malls display the list of goods involving ads for various goods and then sell the goods via the internet if the user wants to buy particular goods.

Especially these days, a mobile terminal such as a cellular phone, PCS, PDA and the like which can connect with a website on the internet and receive various information have been developed and widely used around the world. Furthermore, the mobile terminal, (i.e., IMT-2000), which can quickly transmit massive data such as moving picture data is under development.

These mobile terminals usually use a wireless internet that extends the wired internet that normally transmits/receives data through a conventional wired internet network to wireless technology. The user can search the website on the internet since these mobile terminals have a web browser.

Regarding this procedure, the user can connect with the website on the internet using the mobile terminal by inputting an internet URL of the website using the web browser or alternatively inputted predetermined numbers in accordance with internet



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address after the user has connected with the internet. However, this conventional method for connecting with the internet is inconvenient because the user must press a button several times to connect with the desired website.

Fig. 1A is a flowchart representing the process to conduct call connection and data service in a mobile terminal according to the prior art.

Most services using a mobile terminal usually involve voice call or wireless internet. The voice call can be conducted only with the input of a phone number and then pressing a send button. However, internet connection using a web browser is a multi-step procedure requiring operating buttons.

The prior art will be described referring to Fig. 1.

At step S110 the user selects either voice call or internet connection. If the user selects the voice call, the operation for the voice call is conducted at step S115. If the user selects the internet connection, the operation of the internet connection for data service is conducted at step S150.

Regarding the voice call, the user inputs a phone number in step S115 and presses send button in step S120. Thereafter, a corresponding call connection occurs in S125 but the call is disconnected if the end button is pressed in step S170. As described above, the user can conduct voice call by inputting the phone number and then operating one button.

In comparison, if the user requests internet service the user inputs an internet connection request button in step S150, the web browser then executes in accordance



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with the input of the button, and the mobile terminal connects with internet network in step S155. At first, if the user of the mobile terminal inputs the web browser execution button, the mobile terminal executes the web browser to connect with the web server on the internet network.

Upon connecting with an internet network and then the internet address data of desired website, the URL of the desired website is inputted by the user in step S160. Next the web server searches IP address in accordance with inputted internet address data in step S165. The web server maps the mobile terminal to the website in accordance with the searched IP address, so that the user can connect with the desired website at step S170 and locate various information. Accordingly the user inputs the address of the desired website.

A procedure in connecting with the internet will be described below referring to the representative screen of the mobile terminal shown in Fig. 1B. Fig. 1B represents the construction of a screen of the mobile terminal when the mobile terminal connects with the internet according to the prior art.

Firstly, if the user of the mobile terminal inputs the internet connection button, the wireless web browser executes to display the screen for connecting with internet shown in step S190.

When the mobile terminal is connected with internet, the screen of the internet address input menu to input the internet address of the website on the internet network is



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displayed as shown in step S192. Thereafter, when the user inputs the internet address of the desired website on the screen of internet address input menu of mobile terminal of step S190, the screen indicative of "connecting with website" as shown in step S194 is displayed on the display of the mobile terminal.

Finally, after the procedure of connecting with the website is displayed, textual information provided by the connected website is displayed on the display of the mobile terminal as shown in step S198.

In summary, the internet connection according to the prior art is quite inconvenient because the user has to input the internet address to connect with the website while connecting with the internet network after executing the web browser of the mobile terminal. Therefore, the user has to operate buttons multiple times to connect with desired website.

In more detail, the internet connection according to the prior art has problems since the user has to conduct a complex procedure of multi-steps. That is, the user must input internet address or number after the web browser is executed to connect with the website. Also, the internet connection according to the prior art is problematical because the fee for using the wireless internet may be overcharged since the user has to input the internet address or the number of the website while connecting with the internet network.

Also, according to the prior art, the plural operations of buttons are required when the user requests a call or data service connection. For example, the user must initially



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input a phone number or search in advance the phone number in the phone number list stored in the mobile terminal to request a call.

In more detail, the user operates buttons so that a screen of the search phone number list is displayed on the display of the mobile terminal when the user wants to connect a call. The user has to input name or index number or operate a direction button multiple times to search for a phone number, so that the connection for a call is established. Moreover, the fee is charged even while inputting a search word since a time-use charge begins right after the web browser is executed.

Therefore, as described above, in order for the user to avoid being needlessly overcharged fees while making requests for data service, a method has been devised such that the user can conveniently search the list stored in the mobile terminal or the user may request data service after a search word has already been inputted in advance.

## Disclosure of the Invention

Therefore, the present invention was devised to resolve the problems associated with the prior art. One object of the present invention is to provide a method and an device for connecting with internet using one button that the user can connect with a desired website with the operation of one button after the user inputs a internet address.

A second object of the present invention is to provide a method and an device for providing one-button service that either voice call or data service is provided with the



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input of character during the input mode in accordance with the operation of character input mode conversion button or service request button. The mobile terminal comprises character input mode conversion button.

A third another object of the present invention is to provide a method and an device for decreasing the number of times regarding operation of the buttons when the user searches a list and sends the call to the phone number in accordance with the character found in the list of the mobile terminal according to the character inputted and the operation of call request button.

Finally, a fourth object of the present invention is to provide service for an internet connection and a search in accordance with the search word inputted by the user. The service for a search can provide service for a search word based on LBS (Location Based Service) using location of the mobile terminal and the search word.

According to a first aspect of the present invention, a method and device for connecting with internet via one- button can be provided.

According to an embodiment, the method for connecting with internet via one button comprises the steps of receiving an internet connection request signal including search word and connection identifier from mobile terminal in proxy server, recognizing said connection identifier included in said internet connection request signal and transmitting said search word to DNS server in said proxy server, extracting IP address in



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accordance with said search word in said DNS server and transmitting said IP address to said mobile terminal, wherein said mobile terminal connects with a website according to said IP address.

According to another embodiment, the method for connecting with internet via one button comprises the steps of (a) receiving a search word, (b) recognizing the operation of an internet connection request button, (c) generating an internet connection request signal by adding a connection identifier to said search word, (d) receiving IP address according to said search word from DNS server and (e) connecting with website according to said IP address.

Wherein said search word includes at least one of number, code, phone number and URL in accordance with website.

According to still another embodiment, the device for connecting with internet via one button comprises proxy server for recognizing a connection identifier included in an internet connection request signal transmitted from a mobile terminal and transmitting said connection identifier to a predetermined DNS server, wherein said internet connection request signal further comprises a search word, DNS server connected with said proxy server, said DNS server for extracting IP address according to said search word and transmitting said IP address to said mobile terminal and database connected with said DNS server, said database for storing IP address according to said search word.

Wherein, said mobile terminal has a character input mode conversion button that is



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converted to a character input mode according to the operation of said character input mode conversion button one time.

According to a second aspect of the present invention, a method and device for providing a one- button service can be provided.

According to an embodiment, a method for providing one-button service comprises the steps of (a) receiving a search word, (b) recognizing service request signal generated according to operating a button on mobile terminal one time only, wherein said service includes data service including internet service and search service and call service, (c) determining service in accordance with said service request signal, (d) providing call service by requesting a call connection of the mobile terminal of receiver if said service is call service, and (e) providing data service by transmitting a data service request signal including said search word to a data service server if said service is data service, wherein said service is provided with operation of said button one time only.

Also, said step (a) further comprises the steps of recognizing character input mode conversion signal in accordance with operation of character input mode conversion button by user, converting number input mode to character input mode in accordance with said character input mode conversion signal, and recognizing the character in accordance with the operation of button on the screen of said character input mode by user.



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According to another embodiment, a method for providing one-button service comprises the steps of (a) receiving data service request signal including a search word from a mobile terminal, wherein said data service request signal is generated by operating the button on said mobile terminal one time after the search word is inputted, (b) determining the type of said data service, (c) transmitting said search word to DNS server, receiving the results of mapping an IP address in accordance with said search word from said DNS server and transmitting said IP address to mobile terminal if said data service is an internet connection service, and (d) transmitting search request signal including said search word and location information to search server, receiving the results of the search from said DNS server, and transmitting said results of the search to said mobile terminal in said data service server if said data service is an internet connection service.

Also, said step (b) further comprises the step of recognizing said data service as internet connection service if the results of mapping an IP address include an IP address and recognizing said data service as search service if the results of mapping an IP address don't include an IP address. Also, said location information includes at least one base terminal identifier being transmitted from a location providing server connected with MSC, wherein said base terminal indicates said mobile terminal sends a call to and location coordinate being transmitted from said mobile terminal having a function of transceiving from/to a GPS satellite.

According to a still another embodiment, a mobile terminal for providing



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one-button service comprises character input means for converting input mode to character input mode by operating the character input mode conversion button on mobile terminal, call sending means for sending a call to mobile terminal of receiver based on a search word in accordance with the operation of a call request button on said mobile terminal, searching means for searching a phone number in accordance with said mobile terminal of receiver in a predetermined list in accordance with said character and said call request button, and browsing means for connecting with website in accordance with the operation of data service request button on said mobile terminal.

Furthermore, said browsing means outputs the results of the search in accordance with said search word if said data service is search service. Also, said character input mode conversion button includes either the standard star sign "*" button or the pound sign "#" button set up to convert input mode to character input mode when said button is pressed for a predetermined time, wherein said character input mode conversion button is an independent function key established for converting the input mode to character input mode by operating said button one time only.

Brief Description of the Drawings

Fig. 1A is a flowchart representing a procedure for conducting call connection and data service in the mobile terminal according to the prior art.

Fig. 1B represents the construction of the screen of the mobile terminal when the



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mobile terminal connects with internet according to the prior art.

Fig. 2A represents the construction of the mobile terminal according to the present invention.

Fig. 2B is a flowchart representing the procedure for providing one-button service according to a preferred embodiment of the present invention.

Fig. 3 represents one-button internet connection system according to a preferred embodiment of the present invention.

Fig. 4A is a flowchart representing the procedure for conducting one-button internet connection service according to the present invention.

Fig. 4B represents the map table stored in IP information database according to the present invention.

Fig. 5 represents the time sequence of the screen of the mobile terminal when the mobile terminal connects with internet according to the present invention.

Fig. 6 represents the construction of one-button service system network according to a preferred embodiment of the present invention.

Fig. 7 is a flowchart representing the procedure for providing data service according to a preferred embodiment of the present invention.

Fig. 8A is a flowchart representing the procedure for providing call service according to a preferred embodiment of the present invention.

Fig. 8B is a flowchart representing the procedure providing the service in the



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mobile terminal when the service requested according to a preferred embodiment of the present invention is data service.

Fig. 9 is a flowchart representing the procedure for providing the service in the data service server based on the search word transmitted from the mobile terminal according to a preferred embodiment of the present invention.

Fig. 10A is a screen representing the procedure for providing the call service according to a preferred embodiment of the present invention.

Fig. 10B is a screen representing the procedure for providing internet connection service according to a preferred embodiment of the present invention.

Fig. 10C is a screen representing the procedure for providing search service according to a preferred embodiment of the present invention.

Best Modes for carrying out the Invention

Hereinafter, preferred embodiments of the present invention will be described in more detail with reference to the accompanying drawings.

Fig. 2A represents the construction of the mobile terminal according to the present invention.

The service that a user wants to use can be provided with the operation of just one button. Accordingly, the mobile terminal according to the present invention has a character input mode conversion button for converting a number input mode to character



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input mode, a call request button for requesting a call, a button for connecting with the internet and the like. A keypad generates pecuniary signals in accordance with the operation of these buttons. The mobile terminal according to the present invention recognizes these signals and conducts service such as call service, internet service, search service and the like in accordance with these signals. Hereinafter, these services will be indicated by one-button service.

Referring to Fig. 2A, the mobile terminal according to the present invention comprises search word input module 210, call module 220, web browser module 230, and search module 240.

Furthermore, the search word input module 210 comprises a number input layer module 213 and character input layer module 217. Generally, a conventional mobile terminal is set up for a number input mode, so the user has to operate buttons multiple times to select the menu which a character can be inputted when the user wants to input characters. However, according to the present invention, the operation of one button using a predetermined character input mode conversion button allows the input mode to be converted to the character input mode. The character input mode conversion button is an independent function button which is used to conduct the conversion of input mode in accordance with operating the button one time only, and it can be implemented using "*" button or "#" button which is set up so that conversion of the character input mode may occur. As described above, the mobile terminal can be connected with the mobile



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terminal of a receiver or website after the user inputs a search word and operates the button one time.

The call module 220 sends a call to the mobile terminal of the receiver in accordance with the search word. The call module 220 tries to connect with the mobile terminal of receiver in accordance with the search word after the user inputs a search word and presses a "send" button. Accordingly, the call module 220 tries to connect with the mobile terminal of a receiver using a number if the search word is a number, but tries to connect with the mobile terminal of a receiver using the phone number in accordance with the search word extracted from the list in the mobile terminal by the search module 240 if the search word is a character. That is, the search module 240 searches whether the name of the receiver is the same as the inputted search word in the list, and then extracts the phone number in accordance with the name of the receiver that is the same as the inputted search word if it exists.

The web browser module 230 connects with a website in accordance with the search word. The web browser module 230 requests the website in accordance with the search word connection after the user inputs the search word and presses the button for internet connection. If the search word is URL, the web browser module 230 tries to connect with the predetermined website in accordance with the URL. In contrast if the search word is number or character except URL, the web browser module 230 tries to connect with the website in accordance with the search word using an IP address in accordance with the



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search word.

Connection with website according to the present invention occurs with the operation of one button. However the prior art is generally inconvenient since the user has to connect with the internet, input the URL of website, and also click the button for checking. In contrast according to the present invention, if the user inputs a search word in accordance with the IP address of website and presses the button for internet connection, then the mobile terminal can connect with the website using a DNS server in which IP address in accordance with the search word is stored. According to the present invention, an internet connection request signal may comprise an identifier so that a proxy server connected with the DNS server does not transmit the search word to a typical DNS server but rather to the DNS server according to the present invention. Hereinafter, the identifier will be indicated as "connection identifier".

Also, the present invention can provide service for searching according to the present invention as well as service for call and internet connection. That is, the results of a search based on location in accordance with the search word can be provided to the mobile terminal if the search word is made up of characters. The service for searching can be conducted in a separate search server. The one-button service according to the present invention comprises service for a call, internet, and search. The service for internet and search will be indicated as "data service".



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Fig. 2B is a flowchart representing the procedure for providing one-button service according to a preferred embodiment of the present invention.

According to the present invention, the user can input a character conveniently by conversion to the character mode and connect with a desired website in one click after the user inputs a character as voice call. Also, the user can connect with a desired website via search word by one- button operation after the user inputs the search word such as a predetermined phone number, a number, and the like to avoid all complication of inputting a URL. Also, the present invention can provide service for a search based on the location.

Upon referring to Fig. 2B, the procedure for providing one-button service according to the present invention will be described.

In step S250 the user can input a search word according to the classification of the search word to be inputted. According to the present invention, the number input mode is established for the mobile terminal. Therefore in step 265 the user can input a number without operating a button if the user inputs a number. If the user inputs a character, the user presses the character input mode conversion button to convert from input mode of the mobile terminal to character input mode in step S260, so that the user can input character. The mobile terminal according to the present invention may have an independent function button to execute conversion of character input mode by operating the button one time. For example, the independent function button can be "*" button or



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"#" button established for conversion of the character input mode. If the user presses the button at a predetermined time, the input mode of the mobile terminal is converted to character input mode.

In step S270 the user clicks the button to select the desired service. One-button service according to the present invention can provide a service to search based on the location, as well as a service for call and internet connection.

In step S275 the mobile terminal extracts a phone number in accordance with the search word in the list stored in the mobile terminal and requests a call connection to the phone number if the button is a call button.

In step S280 the mobile terminal requests internet connection if the button is an internet connection button. As such, the search word may include a predetermined number in accordance with IP address, phone number, character, and the like. Therefore, the internet request signal may include a separate identifier different from a typical internet request signal. The DNS server according to the present invention extracts an IP address based on the search word if the button is the internet connection button. The proxy server can transmit the internet request signal to the DNS server in which the IP address based on the search word is stored due to the connection identifier included in the internet request signal. The DNS server judges whether the IP address based on the search word exists by referring to the database. While the conventional DNS server extracts only an IP address in accordance with a URL, the DNS server according to the present



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invention can extract an IP address according to number, phone number, Korean URL, and the like.

If the IP address based on the search word exists, the mobile terminal can connect with website in accordance with the IP address, as shown in step S285.

To the contrary if the IP address in accordance with the search word doesn't exist, the mobile terminal can provide a service to search based on location in accordance with the search word in step S290. That is, the search server according to the present invention can provide the results of a search to the mobile terminal after conducting the search in accordance with the search word. The search server provides only results in accordance with location information of the mobile terminal.

Therefore, according to the present invention, the user can connect with the internet using one button conveniently, and provide service for a search based on location if a website in accordance with the search word doesn't exist.

Hereinafter, a data service of one-button service will be described. A procedure for providing Internet connection service of one-button service will be described in the description of the first embodiment. Thereafter, the procedure for providing search service for one-button service will be described in the description of the second embodiment. Accordingly, the first embodiment and the second embodiment according to the present invention will be described in detail.



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The first embodiment

Fig. 3 represents a one-button internet connection system according to a preferred embodiment of the present invention.

Referring to Fig. 3 the one-button internet connection system according to the present invention comprises a mobile terminal 200, a base terminal 300, abase terminal controller 305, a connection network 310, DNS server 350, and multiple websites. The system may further comprise a proxy server 340.

In more detail, the connection network 310 includes PSTN 320 and packet connection network 330. The mobile terminal 200 connects with DNS server through any one of the connection networks 310. The PSTN 320 includes mobile switching center (MSC) 322 and inter working function (IWF) 324, and the packet connection network 330 includes PCF 332 and PDSN 334.

The mobile terminal 200 transmits an internet connection request signal including the search word inputted by the user to the DNS server 350. The internet connection request signal can be transmitted to the DNS server 350 through the proxy server 340. The internet connection according to the present invention is different from the typical user connecting with the website after connecting with the internet network, because the user directly connects with the website. Therefore, the proxy server 340 can recognize and transmit the search word to the predetermined DNS 350.

Additionally, the search word in the internet connection request signal may include



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a separate connection identifier. The search word includes a URL (Uniform Resource Locater) in accordance with the IP address of a website 360, number, phone number and the like, and the website 360 includes the first website to the Nth website 360-1, ... , 360-N.

The mobile terminal 200 transmits the internet connection request signal including the search word or the connection identifier to the DNS server 350 through the base terminal 300, the base terminal controller 305, and the connection network 310. The mobile terminal 200 transmits the internet connection request signal to the DNS server 350 through the mobile switching center (MSC) 322 and the inter-working function (IWF) 324 when the connection network 310 is the PSTN, but transmits the internet connection request signal to the DNS server 350 through the PCF 332 and the PDSN 334 when the connection network 310 is the packet connection network 330. Further, the inter-working function (IWF) 324 and the PDSN 334 convert the protocol of wireless network to internet protocol, so that they connect the wireless network with the internet network. That is, the inter-working function (IWF) 324 and the PDSN 334 connect the mobile terminal 200 with the internet network.

The internet request signal according to the present invention must be transmitted to the DNS server 350 that can recognize the search word. Therefore, a separate connection identifier is required so that the internet request signal may be transmitted to the DNS 350 when a separate DNS server 350 is established. Accordingly, the proxy server 340 which



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can recognize the connection identifier will be included in the system.

Also, the proxy server 340 can recognize the connection identifier included in the internet connection request signal and transmit the search word to the DNS server 350. Finally, the DNS server 350 extracts the IP address based on the search word transmitted from the proxy server 340 and transmits the IP address to the mobile terminal 200. The mobile terminal 200 can connect with the website in accordance with the IP address using the IP address transmitted from the DNS server 350. Thus the DNS server 350 can extract the IP address based on the search word by referring to the IP address information database 355 connected with the DNS server 350(See Fig. 4B).

Fig. 4A is a flowchart representing the procedure for conducting one-button internet connection service according to the present invention.

Upon referring to Fig. 4A, this procedure will be described in detail.

In step S400 the user of the mobile terminal inputs a search word in accordance with a desired website and then presses the internet connection button on the mobile terminal 200 in step S405. The mobile terminal 200 executes the web browser module 230, adds the connection identifier to the search word and generates the connection request signal including the search word and the identifier in step S410. In step S415 the mobile terminal 200 transmits the connection request signal to the proxy server 340.

For example, if the user of the mobile terminal 200 inputs the number "92446" on



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the screen of the mobile terminal and then inputs wireless web browser execution key, the mobile terminal 200 generates the website connection request signal of "http:\\ 92446" by combining the connection identifier "*" to "92446".

In step S415 if the generated connection request signal is transmitted to the proxy server 340, then in step S420 the proxy server 340 recognizes it as the website connection request signal generated by connection identifier "*" and transmits the search word to the DNS server 350.

In step S430 the DNS server 350 extracts the IP address in accordance with the search word by mapping the IP address information database 355 and transmits the IP address to the mobile terminal in step S435.

In step S440 if the mobile terminal connects with the website based on an IP address using the IP address, then as shown in step S445, the website transmits the contents of the website to the mobile terminal and the mobile terminal displays the contents of the website.

Fig. 4B represents a map table stored in an IP information database according to the present invention.

The map table stored in the IP address information database comprises a URL field 402, number field 404, phone number field 406, and IP address field 408 as shown in Fig. 4B.



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In more detail, the URL field 402 is the field to store an internet address, (e.g., 'www.yahoo.com', 'www.ez-patent.co.kr'), to be connected with various websites on internet. Further, the number field 404 is the field to store a number such as '92446', '31728368' and the like, that connects the mobile terminal with website. Also, the phone number field 406 is the field to store a phone number to connect the mobile terminal with website.

Lastly, the IP address field 408 is the field to store the IP addresses of plural websites 360 in accordance with the URL, number, phone number and the like when the mobile terminal 200 connects with internet.

Fig. 5 represents a time sequence of the screen of the mobile terminal when the mobile terminal connects with the internet according to the present invention.

Referring to Fig. 5, the method for connecting with internet of the mobile terminal according to the present invention when the user of the mobile terminal wants to connect with the homepage of 'EZ Patent and Trademark Office' in Seoul, Korea will be described.

A typical screen of the mobile terminal in steps S500, S505 and S510 is shown in Fig. 5.

The user can input the number in accordance with the IP address of the website, for example, '31728368' as in step S500, or secondly imput the URL in accordance with the



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IP address of the website, for example, 'www.ex-patent.co.kr' as in step S505. Also, in step S510 the user can input the phone number in accordance with the IP address of the website, for example, '025656727'.

In step S515, the internet connection request button is clicked. The mobile terminal 200 executes the web browser module 230, adds the connection identifier to the search word, and transmits it to the DNS server 350. That is, the mobile terminal 200 transmits the website connection request signal, (e.g., 'http://*www.ex-patent.co.kr' added with a predetermined internet connection signal), "*" to the base terminal at the same time the mobile terminal 200 executes the web browser.

In step S515 the screen indicative of connecting with the website is displayed on the display of the mobile terminal 200 until the mobile terminal 200 connects with the website. For example, a character string like 'connecting with the site' can be displayed on the display of the mobile terminal 200 similarly as shown in the step S515 in Fig. 5.

The DNS 350 server searches the IP address information database 355, extracts the IP address in accordance with the search word included in the website connection request signal, and transmits it to the website during display. The mobile terminal 200 can connect with the website using the IP address. In step S520 the connection is established, so the web page of 'EZ Patent and Trademark Office' is displayed.



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The second embodiment

Fig. 6 represents the construction of a one-button service system network according to a preferred embodiment of the present invention.

A method for providing one-button service according to the present invention can provide service for a search allowing for the convenient input of characters as well as internet connection. Predetermined numbers in accordance with website, code, URL, domain, character and the like can be inputted as the search word. However, the case character that is inputted will be described to make the description of the present invention simple.

In the description of the method and device for providing one-button service according to the present invention, the internet connection request button will be indicated as a data service request button, while the DNS server 350 and the search server 370 will be indicated as a data service server 390 hereinafter.

The method and the device for providing one-button service including the service for a search according to the second embodiment will be described below in detail.

Referring to Fig. 6, the device for providing service for a search according to the second embodiment further comprises location providing server 600 and search server 370.

The location providing server 600 connects with mobile switching center (MSC) 322 or PCF 332 and stores the location coordinate in which the mobile terminal 200 sends



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a call. That is, the location providing server 600 stores the base terminal identifier generated by the mobile terminal 200 as the location coordinate and transmits the location coordinate that stores the base terminal identifier to the service server in accordance with request of the service server.

The data service server 390 relays data service request transmitted from the mobile terminal 200. According to the present invention, the data service in accordance with the character inputted into the mobile terminal 200 is provided. The data service server 390 comprises the DNS server 350 and the search server 370.

Furthermore, the search server 370 outputs the results based on the location coordinate of the mobile terminal 200 and the inputted search word. For example, if the character is 'hospital' and the location in which the call is sent from the mobile terminal 200 is 'Kang Nam terminal', then information about hospitals located around Kang Nam terminal is displayed as output.

The DNS server 350 outputs the IP address in accordance with the inputted search word such as a domain by character. For example, if 'KTF' is inputted into the mobile terminal 200 by character and then transmitted to the DNS server 350, the DNS server 350 can extract the domain address of the website, 'http://www.ktf.com', and IP address in accordance with the domain address.

Other configurations are the same as or similar to that of the first embodiment, so their descriptions will be omitted. Also, according to the second embodiment, the proxy



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server 340, which transmits the search word to the data service server 390, can be comprised as an additional feature. However, the description of the connection identifier and the proxy server 340 will be omitted to simplify the description of the present invention.

When the user operates the character input mode conversion button on the mobile terminal 200, the input mode of the mobile terminal 200 is converted to the character input mode so the user can input a character as the search word. The search word may be the name of the receiver (for example, index number, name, phone number, etc.) of the list of phone numbers stored in the mobile terminal 200, domain, other search words and the like.

After the user inputs the search word, the service via the user operating the call request button or data service request button on the mobile terminal 200 is provided. For example, the user inputs the name of the receiver in a character and then operates the call request button; the mobile terminal 200 searches the phone number in accordance with the name of the receiver in the list and sends a call for the phone number. Also, if the user inputs a character such as a domain and then operates the data service request button, the mobile terminal 200 outputs results of the search in accordance with the search word or connects with the website in accordance with the search word.

Accordingly, call connection service can be provided by using only the mobile terminal 200 if the search word is a name recognized within the mobile terminal of



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receiver. However, if the requested service is data service, other processing devicees are required to provide the data service. The other processing devicees may include the data service server 390, the search server 370, and the DNS server 350. Additionally, other processing devicees will conduct data service including the internet since they are connected through the inter-working function 324.

The search word is transmitted to the data service server 390 when the user operates the data service request button.

The user can request an internet connection service or search service with the operation of one button only one time by including the internet connection request button and search request button.

Also, the data service server 390 may process the search word without judging the service request based on the search word inputted by the user that comes under either the internet connection service or the search service. In this situation, a determination occurs by the mapped result of the DNS 350.

That is, if the search word is transmitted from the mobile terminal 200 to the data service server 390, the data service server 390 transmits it to the DNS server 350 and determines whether the IP address in accordance with the search word exists. If the data service server 390 receives the IP address from the DNS server 350, the data service server 390 establishes the connection between the websites in accordance with the mobile terminal 200 and the IP address.



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To the contrary if the data service server 390 doesn't receive IP address from the DNS server 350, the data service server 390 can provide search service in accordance with the received search word. At this time, the data service server 390 recognizes the location of the mobile terminal 200 and conducts a search using the character inputted and location information of the mobile terminal 200. More specifically, the data service server 390 requests the location information of the mobile terminal 200 of the location providing server 600 connected with the mobile switching center 322. The data service server 390 receives the base terminal identifier according to the base terminal in which the mobile terminal 200 sends a call (i.e., the call includes real voice call and data service request) from the location providing server 600 in the format of the location coordinate.

Therefore, the data service server 390 transmits the character and the location coordinate of the mobile terminal 200 to the search server 370 and requests a search. Then, the data service server 390 receives the results of the search from the search server 370 and transmits them to the mobile terminal 200. That is, the search service related solely on the character can be used quite efficiently if the character has a meaning related very closely with the location.

For example, if the user inputs 'gas terminal' or 'hospital' as the search word, the user can search for gas terminals and hospitals located within the closest distance from the location of the mobile terminal 200.

The method for providing one-button service will be described when the internet



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connection service request button and search service request button are implemented as one button by integrating the two buttons. However, the present invention is not limited to this embodiment, since two buttons can still be provided as the internet connection service request button and search service request button respectively.

Fig. 7 is a flowchart representing a procedure for providing data service according to a preferred embodiment of the present invention. The procedure of the steps shown in Fig. 7 will be described in detail.

In step S700, the search word inputted into the mobile terminal 200 is transmitted to the data service server 390. In step 705, the data service server 390 transmits the search word to the DNS server 350 and requests the DNS server 350 IP address in accordance with the search word. In step 710, the DNS server 350 receives the search results of the IP address from the DNS server 350.

In the step 715, the data service server 390 checks if IP address is in the search results, so that the data service server 390 determines whether the IP address in accordance with the search word exists. If the IP address is in the search results, the search word is mapped to the IP address and goes to the step S720. If the IP address is not in the search results, the data service server 390 recognizes it as search service and goes to the step S735.

In the step 720, if the IP address in accordance with the search word exists, the data



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service server 390 transmits the IP address to the mobile terminal 200. In the step 725, the mobile terminal 200 requests connection with a website in accordance with the IP address. If the mobile terminal 200 receives a connection answer signal from the website, connection between the mobile terminal 200 and website is established in the step 730.

In the step 735, if the search word is for search service, the data service server 390 requests the location providing server 600 the location coordinate of the mobile terminal 200 using the identifier of the mobile terminal 200 (for example, the phone number of subscriber set up in the mobile terminal 200).

In the step 740, the data service server 390 receives the location coordinate of the mobile terminal 200 from the location providing server 600. The location coordinate includes the identifier of the base terminal that the mobile terminal 200 sends a call to.

In the step 745, the data service server 390 transmits the search word and the location coordinate of the mobile terminal 200 to the search server 370 and requests a search regarding the search word of the search server 370.

In the step 750, the data service server 390 receives the search results from the search server 370 using the search word and the location coordinate of the mobile terminal 200.

In the step 755, the data service server 390 transmits the search results to the mobile terminal 200.



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Fig. 8A is a flowchart representing a procedure for providing call service according to a preferred embodiment of the present invention.

The procedure of the steps shown in Fig. 8A is described in detail as follows.

In the step S810, the user of the mobile terminal 200 operates a character input mode conversion button. The mobile terminal 200 generates a character input mode conversion signal in accordance with the character input mode conversion button, and a character input layer program is executed in accordance with the character input mode conversion signal.

The character input mode conversion button can be mounted on the mobile terminal 200. Also, it may be possible that the character input mode is converted using another button on the mobile terminal 200. For example, the character input mode conversion signal can be generated by the user pressing the pound sign "#" button on the mobile terminal 200 for a predetermined time.

In step 813, the mobile terminal 200 executes the character input layer program. That is, the character input layer program outputs the screen of character input mode in accordance with the character input mode conversion signal on the display of the mobile terminal 200 and allows the user to interface to input a character.

In the step S815, the mobile terminal 200 that was converted to the character input mode inputs the search word of the user. In more detail, the search word is for searching the name of the receiver stored in the list of the mobile terminal 200 in advance. For



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example, let us suppose that a man "Hong Gil Dong", who is the receiver, and "02-565-6727", which is the phone number of the receiver, are stored in the list. The user inputs this name "Hong Gil Dong" as the search word.

In the step S820, the user inputs a call disconnection request button after the user inputs the search word. The mobile terminal 200 generates a call request signal in accordance with the operation of the call request button and extracts the call request signal.

In the step S825, the mobile terminal 200 searches the name of the receiver as the search word previously inputted in the step S815 in the list in accordance with the call request signal extracted in the step S820. That is, as the example of the step S815, if the search word(s) inputted is "Hong Gil Dong", the related the search results will be "02-565-6727".

In the step S830, the mobile terminal 200 sends a call using the phone number searched in the step S825. That is, the mobile terminal 200 makes the call using the phone number in accordance with the name of the receiver searched by the user. Otherwise, in the step 835, the call is disconnected in accordance with the call disconnection request inputted by the user in the step 835.

Fig. 8B is a flowchart representing a procedure for providing the service in a mobile terminal when the service requested according to a preferred embodiment of the present



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invention is data service.

The procedure of the steps shown in Fig. 8A will be described in detail as follows.

In the step S850, the user of the mobile terminal 200 inputs a character input mode conversion button. The mobile terminal 200 generates a character input mode conversion signal in accordance with the character input mode conversion button, and a character input layer program is executed in accordance with the character input mode conversion signal.

In step S853, the mobile terminal 200 executes the character input layer program. That is, the character input layer program outputs the screen for the character input mode in accordance with the character input mode conversion signal on the display of the mobile terminal 200 and allows the user to interface to input a character.

In the step S855, the mobile terminal 200 that was converted to the character input mode inputs the search word of the user. The search word is for searching desired information or may be a domain, number or code in accordance with the search service for searching the desired information and desired website. For example, the search word can be a generic keyword to search such as "hospital", "gas terminal", "Chinese restaurant", "cinema", etc. Also, the keyword can be a well-known Korean domain address of an internet site such as "daum", "Korea Telecom", "KTF" and the like.

In the step S860, the user inputs the data service request button after the user inputs the search word. The mobile terminal 200 generates a data service request signal and



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extracts it in accordance with the operation of the data service request button and recognizes this data service request signal.

In the step S865, the mobile terminal 200 executes the web browser in accordance with the data service request signal. In the step 870, the mobile terminal 200 receives the contents of the website or the search results in accordance with the search word inputted, and outputs those results using the web browser.

For example, if the search word is "hospital", information of hospitals located in the region where the mobile terminal 200 is located will be outputted; if the search word is "KTF", contents of that website will be outputted after the mobile terminal 200 connects with the website.

Finally, in the step S880, the data service is disconnected in accordance with the service disconnection request inputted by the user.

Fig. 9 is a flowchart representing a procedure for providing service in a data service server in accordance with the search word transmitted from the mobile terminal 200 according to a preferred embodiment of the present invention. Hereinafter, the procedure of the steps shown in Fig. 8A will be described in detail.

In the step S910, the data service server 390 receives the search word from the mobile terminal 200. The mobile terminal 200 transmits the search word when the user inputs the search word in the character input mode of the mobile terminal 200 and



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operates the data service request button to send the signal.

In the step S915, the data service server 390 requests an IP address in accordance with the search word using the search word just received. At that time, the DNS server 350 searches whether an IP address based on the search word exists. For example, the DNS server 350 searches the website address and the IP address in accordance with "KTF" when the search word is "KTF". Thereafter, the DNS server 350 transmits a failed search message to the data service server if the IP address in accordance with the search word doesn't exist.

In the step S920, the data service server 390 determines whether the IP address in accordance with the search word exists using the search results of the IP address transmitted from the DNS server 350. In the step S920, the data service server 390 transmits the IP address to the mobile terminal 200 if the IP address is in the search results of IP address. Although the procedure in the mobile terminal 200 is omitted, the mobile terminal 200 that has received the IP address establishes the connection with the IP address through the web browser.

Finally, in the step 920, the search service using the search word is provided if the search results of the IP address that don't include an IP address (i.e. if the search fail message is transmitted).

In the step 940, the data service server 390 requests the location coordinate of the mobile terminal 200 of the location providing server 600 to receive the location coordinate of the mobile terminal 200 to be added to the search word.



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In the step 945, the data service server 390 receives the location coordinate of the mobile terminal 200 from the location providing server 600. The location providing server 600 connects with the mobile switching center and the like for the purpose of storing the location information of the mobile terminal 200. The location providing server 600 can be HLR(Home Location Register), VLR(Visitor Location Register) and the like. This location providing server 600 stores the base terminal identifier of the base terminal which the mobile terminal sends the call to as the location of the mobile terminal 200 and then transmits the location coordinate of the mobile terminal 200 in accordance with the request of the data service server 390 and the like.

In the steps S940 and S945, the location coordinate of the mobile terminal 200 may include the base terminal identifier of the base terminal that receives the call connection signal from the mobile terminal 200. However, in the near future, the mobile terminal will likely include the function that can receive the location coordinate from GPS(Global Positioning System) satellites directly. Therefore, on this assumption, those skilled in the art will recognize that the steps S940 and S945 can be omitted, and the location coordinate can be transmitted directly from the mobile terminal 200.

In the step S950, the data service server 390 transmits the search word and the location coordinate of the mobile terminal 200 to the search server 370. The search function is a primary function of the search server 370. The search server 370 according to the search function organizes the information in accordance with the location based on



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a divided location to a predetermined area and furthermore outputs information according to the location and the search word.

In the step S955, the data service server 390 receives the search results based on the search word and the location coordinate from the search server 370, and transmits the search results to the mobile terminal 200 in the step S960. The search server 370 is for conducting an LBS (Location Based Services) function, and since the technology about the LBS is well known to those skilled in the art further description will be omitted. In the present invention, the search server 370 receives the search word and the location information and transmits the search results of the information to other servers and clients requesting a search of the information.

In the step S970, the data service server 390 receives the disconnection request from the mobile terminal 200 in accordance with the disconnection request from the user and disconnects with the mobile terminal 200.

Fig. 10A is a screen representing a procedure for providing call service according to a preferred embodiment of the present invention.

Referring to Fig. 10A, the mobile terminal has various buttons such as a call request button 1010, a data service request button 1020, and a character input mode conversion button 1000. These buttons are merely indicated according to one of the embodiments, but they can be readily modified by those skilled in the art. Hereinafter, another



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embodiment regarding call service will be described.

The mobile terminal 200 converts the input mode of the mobile terminal 200 to the character input mode when the user operates the character input mode conversion button 1000 in order to input the search word. Accordingly, the character input mode conversion button 1000 can be a button set up for the character input mode conversion function. Also it is possible that the function of the character input mode conversion is executed when a standard button like the pound button (i.e., "#" sign button) is pressed for predetermined time.

The mobile terminal 200 searches the search word inputted in the list storing the names of the receiver when the user inputs the search word in the character input mode and operates the call connection button 1010.

For an example, let us suppose that the name of the receiver is a man "Hong Gil Dong" and his phone number is "02-610-6727". If the user inputs "Hong Gil Dong" in the input mode and presses the call request button 1010, then the mobile terminal 200 searches for the name of the receiver stored in the list in advance using the search word "Hong Gil Dong". Thereafter, the mobile terminal 200 finds "Hong Gil Dong" in the list, and initiates a call using the phone number "02-610-6727". The screen showing the results in accordance with this call procedure is displayed on the mobile terminal 200.

Fig. 10B is a screen representing a procedure for providing internet connection



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service according to a preferred embodiment of the present invention.

Referring to Fig. 10B, the mobile terminal 200 has a call request button 1010, data service request button 1020, and character input mode conversion button 1000, the same as shown in Fig. 10A.

The user operates the character input mode conversion button 1000 and inputs a search word in the character input mode by operating the button 100 when the user intends to use data service (for an example, internet connection website).

As shown in Fig 10B, the user requests connection with the internet website of the Korean domain "daum". The screen showing the results 1045 is displayed on the mobile terminal 200 if the user inputs "daum" in the character input mode of the mobile terminal 200 and operates the data service request button 1020.

The procedure for displaying the screen of results 1045 in accordance with the operation of the button and the input of the search word will be described in detail. The mobile terminal 200 transmits the search word inputted in accordance with the operation of the data service request button 1020 to the data service server 390.

The data service server 390 transmits the search word to the DNS server 350 and requests a search. The DNS server 350 extracts the IP address in accordance with the search word "daum" and transmits it to the data service server 390.

The data service server 390 transmits the IP address to the mobile terminal 200. The mobile terminal 200 requests a connection with a website in accordance with the IP



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address and displays the screen of results 1045 when the response to the request from the website is received and the connection is established.

The screen of results 1045 is the screen displayed when the mobile terminal 200 connects with IP address using the web browser.

Fig. 10C is a screen representing a procedure for providing search service according to a preferred embodiment of the present invention.

Referring to Fig. 10C, the mobile terminal 200 has a call request button 1010, data service request button 1020, and character input mode conversion button 1000, the same as Fig. 10A.

The user operates the character input mode conversion button 1000 and inputs a search word in the character input mode when the user intends to use data service (for example, search service).

As shown in Fig. 10C, the user inputs the search word "Chinese restaurant" and conducts a search. The screen of search results 1055 is displayed on the mobile terminal 200 after the user inputs "Chinese restaurant" in the character input mode of the mobile terminal 200 and operates the data service request button 1020.

The procedure in displaying the screen of results 1045 in accordance with the operation of the button and input of the search word will be described in detail. The mobile terminal 200 transmits the search word inputted in accordance with the operation



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of the data service request button 1020 to the data service server 390.

Thereafter, the data service server 390 transmits the search word to the DNS server 350 and requests a search to occur. The DNS server 350 searches the IP address in accordance with the search word "Chinese restaurant" but transmits search fail message to the data service server 390.

The data service server 390 recognizes the requested service as a search service using the search fail message transmitted from the DNS server 350. The data service server 390 requests the location providing server 370 for the location coordinate of the mobile terminal 200 to transmit the location coordinate of the mobile terminal 200 and the search word "Chinese restaurant" since the search function according to the present invention is based on the location.

The location providing server 600 transmits the base terminal identifier of the area and the mobile terminal 200 sends a call to the location coordinate in accordance with the request to data service server 390. For example, if the location coordinate is "Yoek Sam 1 Dong", the data service server 390 transmits the location coordinate "Yoek Sam 1 Dong" and the search word "Chinese restaurant" (1050) to the search server 370. Then the search server 370 conducts a search and transmits the search results to the data service server 390.

The data service server 390 transmits the search results to the mobile terminal 200, and the mobile terminal 200 displays the search results.



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However, the request for the location coordinate can be omitted if the mobile terminal 200 already includes the function to receive the location coordinate from GPS satellites. That is, the data service server 390 can directly receive the location coordinate of the mobile terminal 200 from the mobile terminal 200 if the mobile terminal 200 includes the function to receive the location coordinate from GPS satellites.

Although the invention has been described in its preferred form with a certain degree of particularity, it is understood that the present disclosure of the preferred form can be changed in various details of construction so that the combination and arrangement of parts may be implemented without departing from the spirit and the scope of the invention as hereinafter claimed.

## Industrial Applicability

As mentioned above, according to a system and method for providing one-button service of the present invention, the user can connect with a desired website via operation of a predetermined button one time only after the user inputs a search word based on an internet address of the desired website on the screen of the mobile terminal.

Therefore, according to the present invention, the user can connect with the internet very quickly since the user can connect with the internet simultaneously upon execution of the web browser after the user inputs the internet address of the desired website on the screen of the mobile terminal.



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Also, the present invention can reduce the fee charged for connecting with a website while inputting internet address of the website, since the operation for inputting the internet address is executed during a delay of the mobile terminal screen after the mobile terminal is connected with internet network.

Also, the one-button service according to the present invention can provide voice call and data service according to the character inputted by the user in the character input mode and the operation of service request button. The mobile terminal according to the present invention has the character input mode conversion button. Therefore, the mobile terminal can reduce the number of times the button is operated when the user searches the list of phone numbers and requests a connection since the mobile terminal searches the character in the list according to the inputted character and the operation of call request button and then initiates a call using the phone number in accordance with the character.

Also, the mobile terminal can connect to the web service in accordance with the search word or output the results of the search by the location based services using the location of the mobile terminal and the search word when the search word is for data service in accordance with the character inputted by the user and the operation of the data service request button.

Although the invention has been described in its preferred form with a certain degree of particularity, it is understood that the present disclosure of the preferred form can be changed in various details of form and construction so the combination and arrangement



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of parts may be implemented without departing from the spirit and the scope of the invention as hereinafter claimed.

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What is claimed is:

1. A method for connecting with internet via one button

comprising the steps of:

receiving an internet connection request signal including search word and connection identifier from mobile terminal in proxy server;

recognizing said connection identifier included in said internet connection request signal and transmitting said search word to DNS server in said proxy server;

extracting IP address in accordance with said search word in said DNS server; and

transmitting said IP address to said mobile terminal, wherein said mobile terminal connects with a website according to said IP address.

2. The method according to claim 1, wherein said search word includes at least one of number, code, phone number and URL in accordance with website.

3. method for connecting with internet via one button

comprising the steps of:

(a) receiving a search word;

(b) recognizing the operation of an internet connection request button;

(c) generating an internet connection request signal by adding a connection identifier to said search word;



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(d) receiving IP address according to said search word from DNS server; and

(e) connecting with website according to said IP address.

4. The method according to claim 3, wherein said search word includes at least one of number, code, phone number and URL in accordance with website

5. The method according to claim 3, wherein said search word is the URL, and further comprising the steps of:

receiving the request of character input mode conversion; and

converting number input mode to character input mode.

6. A device for connecting with internet via one button

comprising:

proxy server for recognizing a connection identifier included in an internet connection request signal transmitted from a mobile terminal and transmitting said connection identifier to a predetermined DNS server, wherein said internet connection request signal further comprises a search word;

DNS server connected with said proxy server, said DNS server for extracting IP address according to said search word and transmitting said IP address to said mobile terminal; and



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database connected with said DNS server, said database for storing IP address according to said search word.

7. The device according to claim 6, wherein said mobile terminal has a character input mode conversion button that is converted to a character input mode according to the operation of said character input mode conversion button one time.

8. A method for providing one button service

comprising the steps of:

(a) receiving a search word;

(b) recognizing a service request signal generated according to operating a button on a mobile terminal one time, wherein said service includes data service comprising internet service and search service and call service;

(c) determining service according to said service request signal;

(d) providing the call service by requesting a call connection for the mobile terminal of receiver if said service is call service; and

(e) providing the data service by transmitting a data service request signal including said search word to data service server if said service is data service;

wherein, said service is provided by operating said button one time.



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9. The method according to claim 8, wherein said step (a) further comprises the steps of:

recognizing a character input mode conversion signal according to user operating a character input mode conversion button;

converting number input mode to character input mode according to said character input mode conversion signal; and

recognizing a character according to user operating a button on the screen of said character input mode.

10. The method according to claim 8, wherein said step (d) further comprises the steps of:

extracting the phone number of receiver according to said search word; and

sending a call using said phone number of receiver.

11. The method according to claim 8, wherein said step (e) further comprises the steps of:

transmitting said search word to DNS server in data service server;

receiving IP address according to said search word from said DNS server in said data service server;

transmitting said IP address to said mobile terminal in said data service server; and

connecting with a website according to said IP address in said mobile terminal.



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12. The method according to claim 8, wherein said step (e) further comprises the steps of:

transmitting said search request signal including said search word and location information to search server in said data service server;

receiving results of search from said search server in said data service server; and

transmitting said results of search to said mobile terminal in said data service server.

13. The method according to claim 12, further comprising the steps of:

transmitting said search word to DNS server in said data service server; and

receiving search fail message if IP address is according to said search word from said DNS server in said data service server.

14. A method for providing one button service using data service server comprising the steps of:

(a) receiving a data service request signal including a search word from a mobile terminal, wherein said data service request signal is generated by operating the button on said mobile terminal one time after a search word is inputted;

(b) determining the type of said data service;

(c) transmitting said search word to DNS server, receiving the results of



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mapping an IP address according to said search word from said DNS server and transmitting said IP address to a mobile terminal if said data service is internet connection service; and

(d) transmitting search request signal including said search word and location information to a search server, receiving the results of search from said DNS server and transmitting said results of search to said mobile terminal in said data service server if said data service is internet connection service.

15. The method according to claim 14, wherein said step (b) further comprises the step of:

recognizing said data service as internet connection service if the results of mapping an IP address include an IP address or recognizing said data service as search service if the results of mapping an IP address don't include an IP address.

16. The method according to claim 14, wherein said location information includes either:

base terminal identifier being transmitted from a location providing server connected with MSC, wherein said base terminal is where said mobile terminal sends a call; or

a location coordinate being transmitted from said mobile terminal having a function of transceiving from/to GPS satellite.



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17. A mobile terminal for providing one button service comprising:

character input means for converting input mode to character input mode according to the user operating a character input mode conversion button on mobile terminal;

call sending means for sending a call to said mobile terminal of receiver according to a search word via the user operating a call request button on said mobile terminal;

searching means for searching phone number according to said mobile terminal of a receiver in a predetermined list based on said character and said call request button; and

browsing means for connecting with website according to the user operating a data service request button on said mobile terminal.

18. The mobile terminal according to 17, wherein said browsing means outputs the results of search according to said search word if said data service is a search service.

19. The mobile terminal according to 17, wherein said character input mode conversion button includes either the normal star sign "*" button or pound sign "#" button established for converting input mode to character input mode when said button is



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pressed for a predetermined time, wherein said character input mode conversion button is an independent function key for converting input mode to character input mode according to the user operating said button one time.

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FIG. 1A

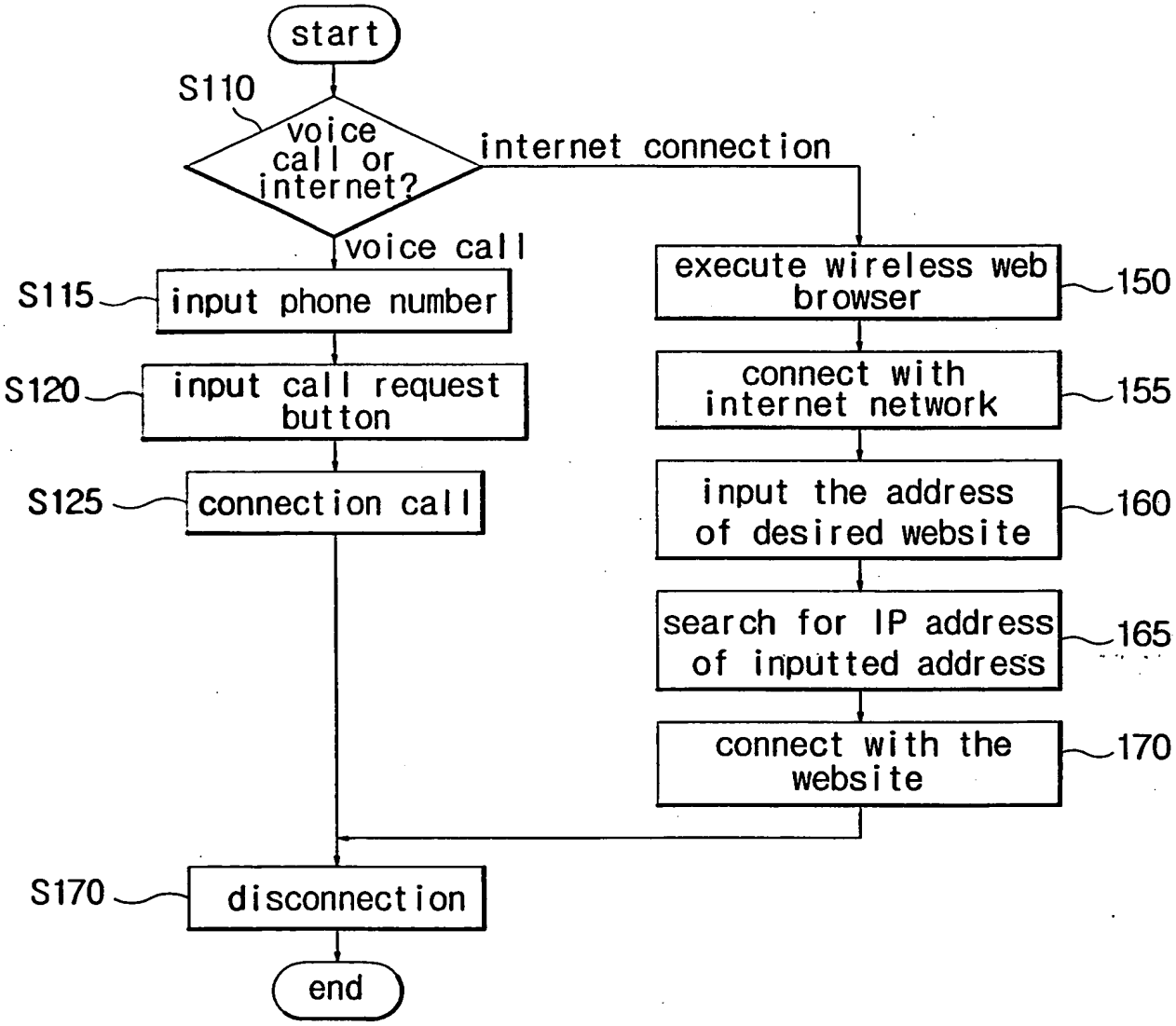


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FIG. 1B

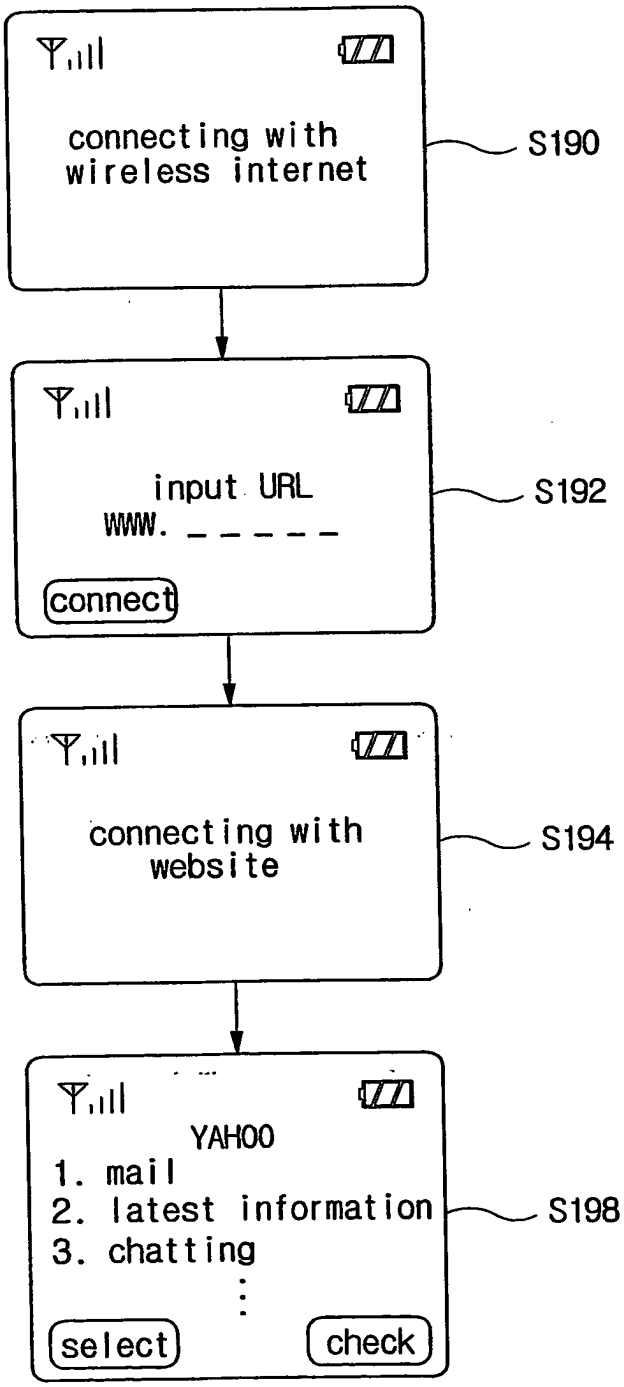
connecting with wireless internet
S190
input URL
www. _ _ _ _ _
connect
S192
connecting with website
S194
YAHOO
1. mail
2. latest information
3. chatting
select
check
S198

FIG. 2A

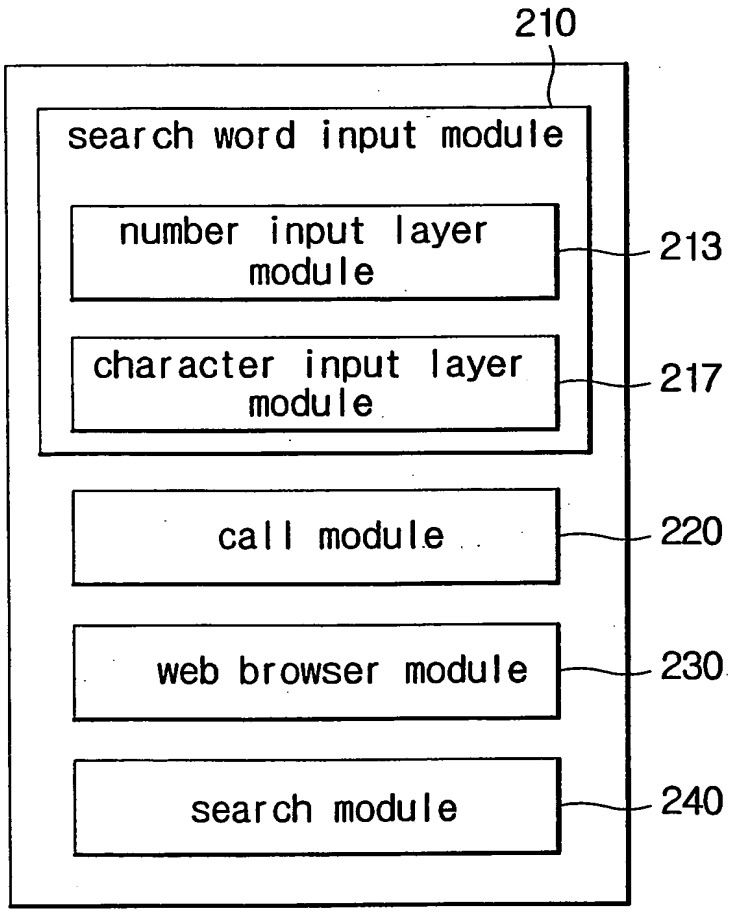


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FIG. 2B

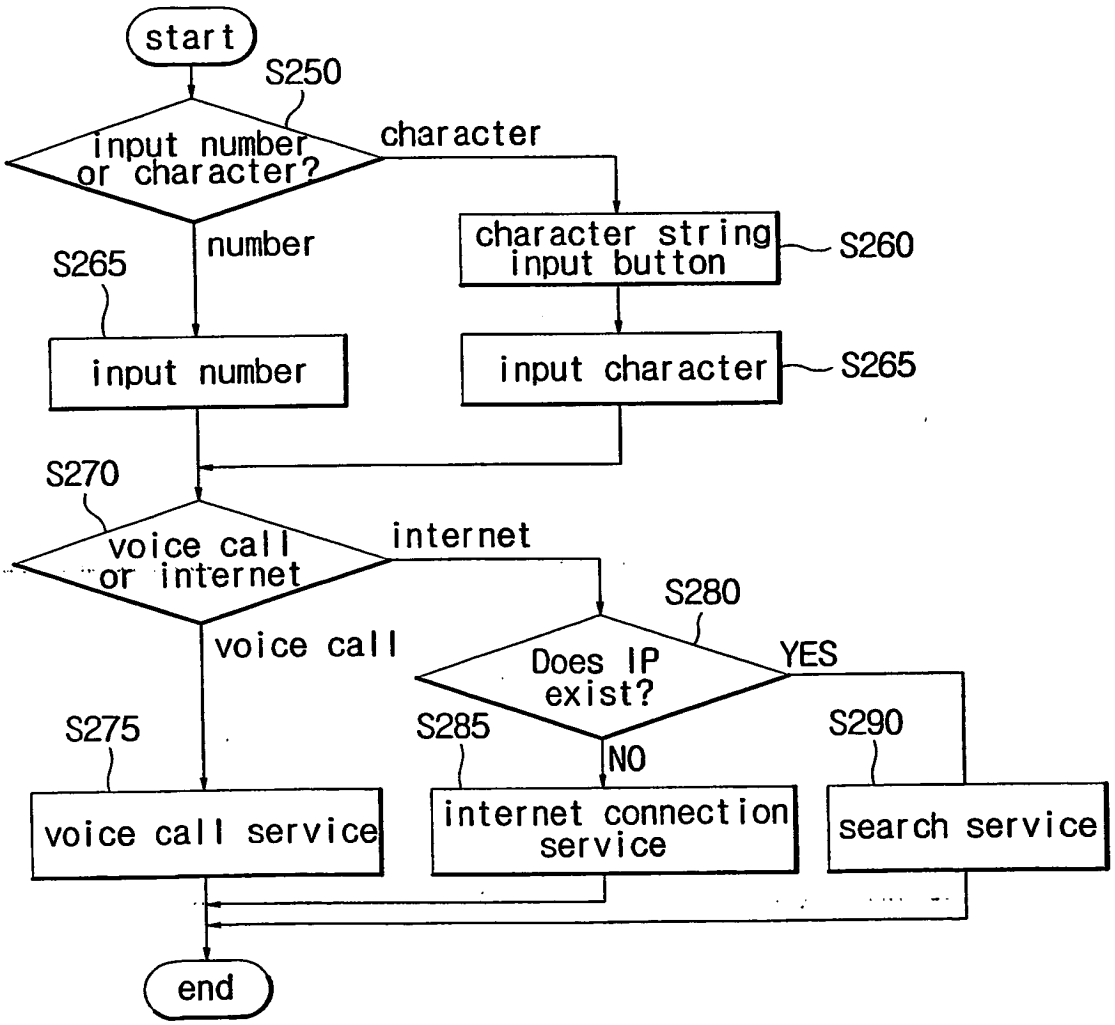
start
S250
input number or character?
character
number
S265
input number
character string input button
S260
input character
S265
S270
voice call or internet
internet
voice call
S280
Does IP exist?
YES
NO
S275
S285
S290
voice call service
internet connection service
search service
end

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FIG. 3

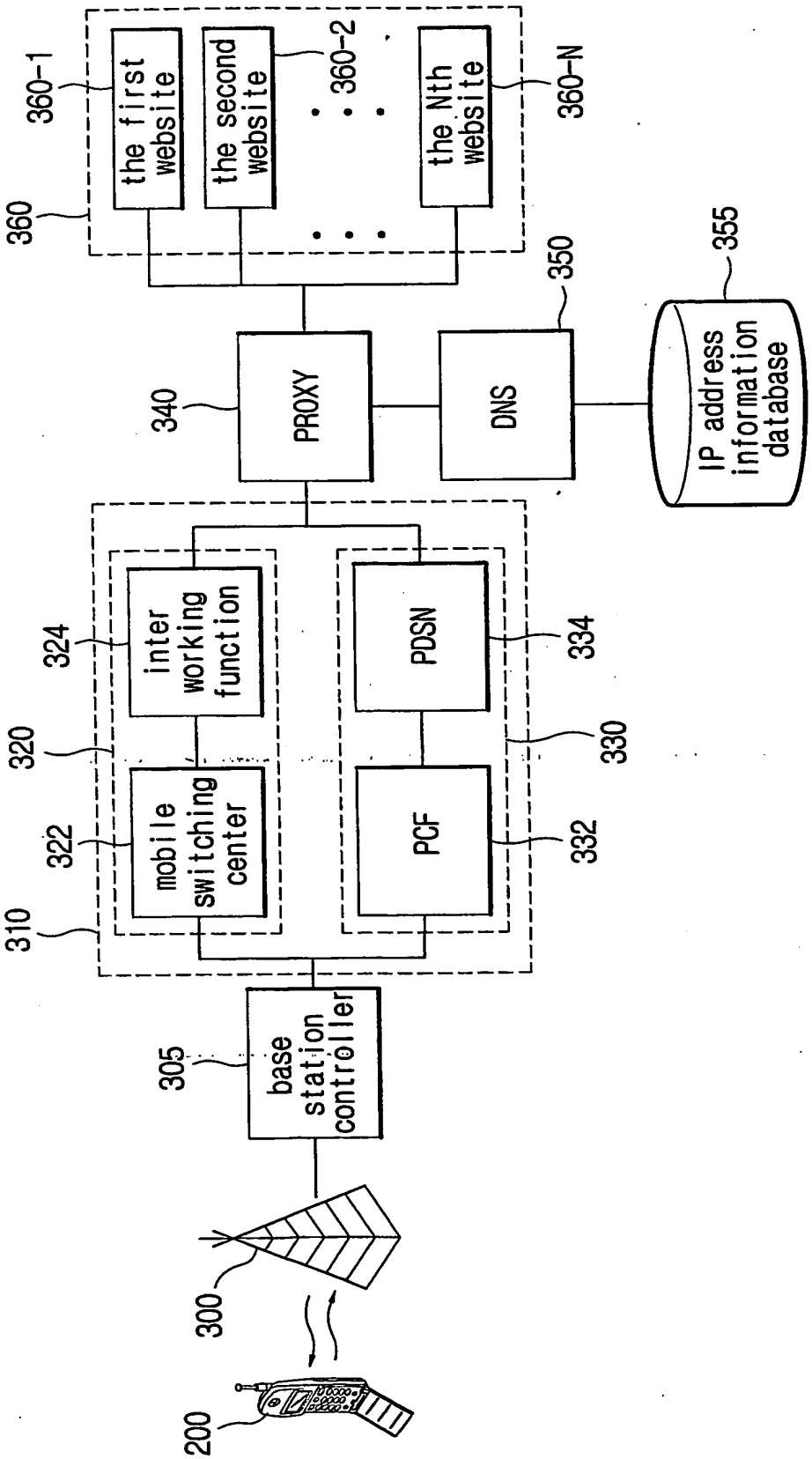
360
360-1
the first website
the second website
360-2
the Nth website
360-N
355
IP address information database
350
340
PROXY
DNS
310
320
324
inter working function
322
mobile switching center
330
334
PDSN
332
PCF
305
base station controller
300
200

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FIG. 4A

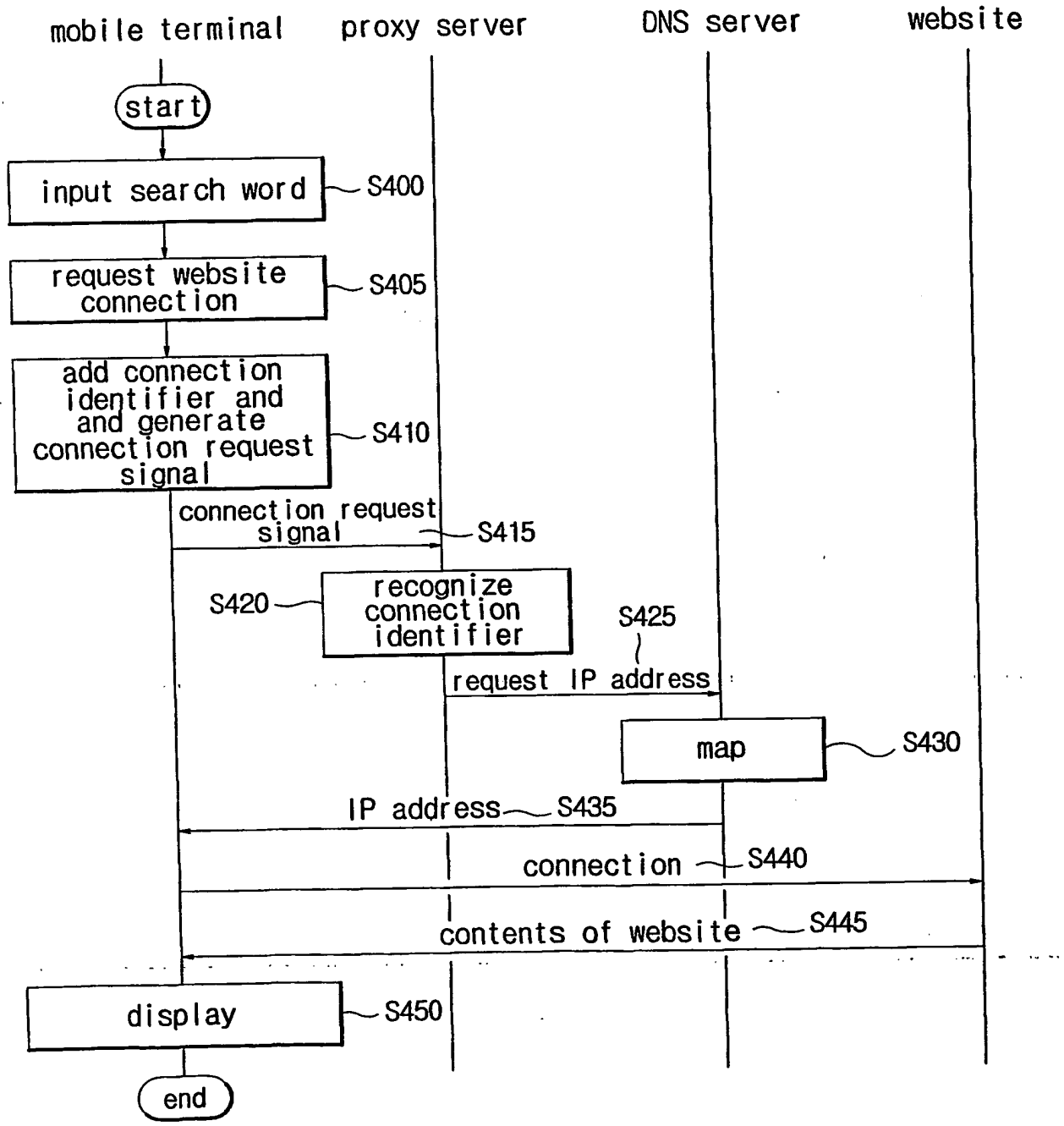
mobile terminal
proxy server
DNS server
website
start
input search word
S400
request website connection
S405
add connection identifier and and generate connection request signal
S410
connection request signal
S415
S420
recognize connection identifier
S425
request IP address
map
S430
IP address
S435
connection
S440
contents of website
S445
display
S450
end

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FIG. 4B

400

| 402 URL address | 404 number | 406 phone number | ... | 408 IP address |
|---|---|---|---|---|
| WWW.YAHOO.COM | 92466 | - | ... | 000.000.00 |
| WWW.EZ-PATENT.CO.KR | 31728368 | 02-565-6727 | ... | 000.000.000 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |

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FIG. 5

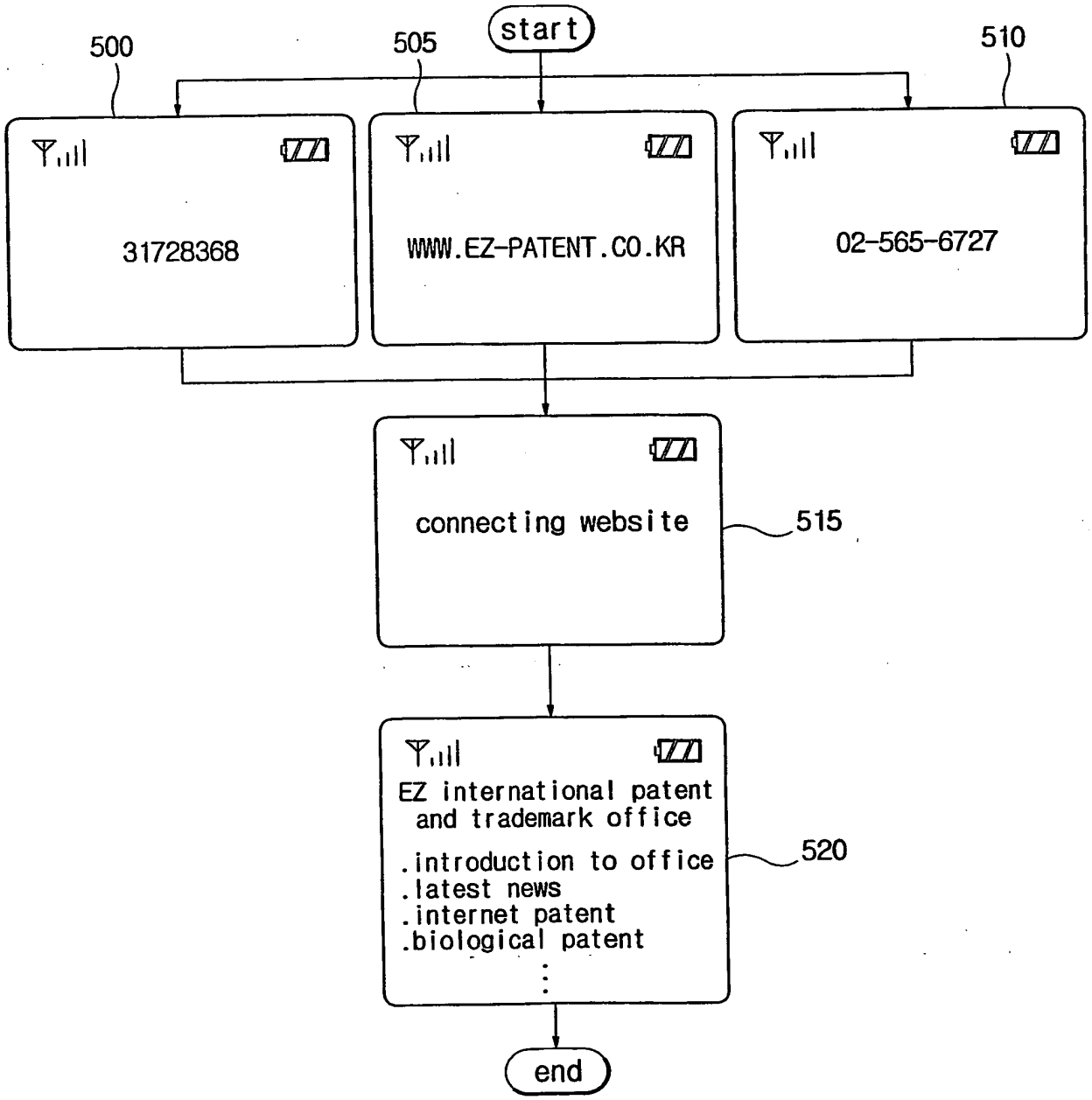


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FIG. 6

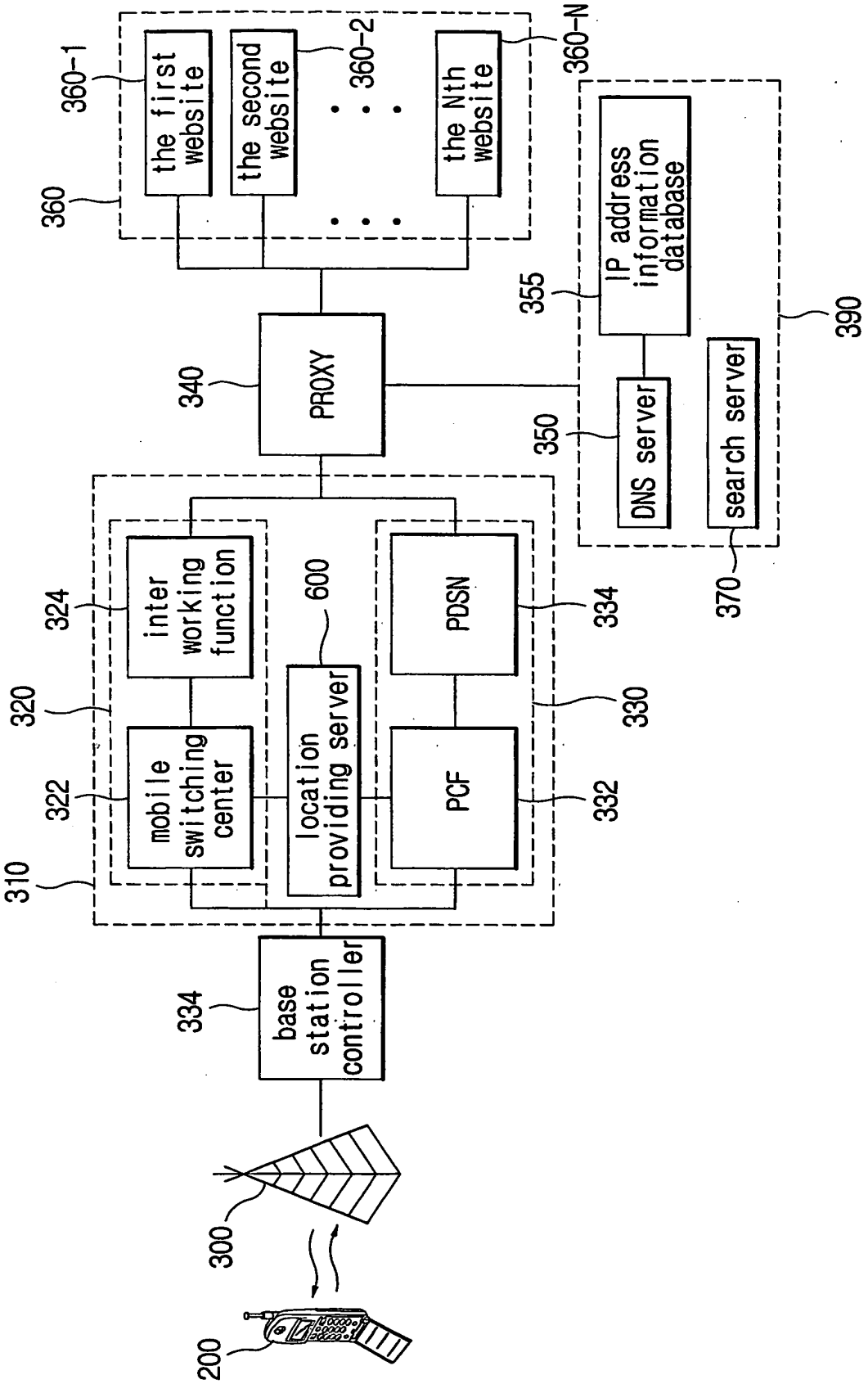


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FIG. 7

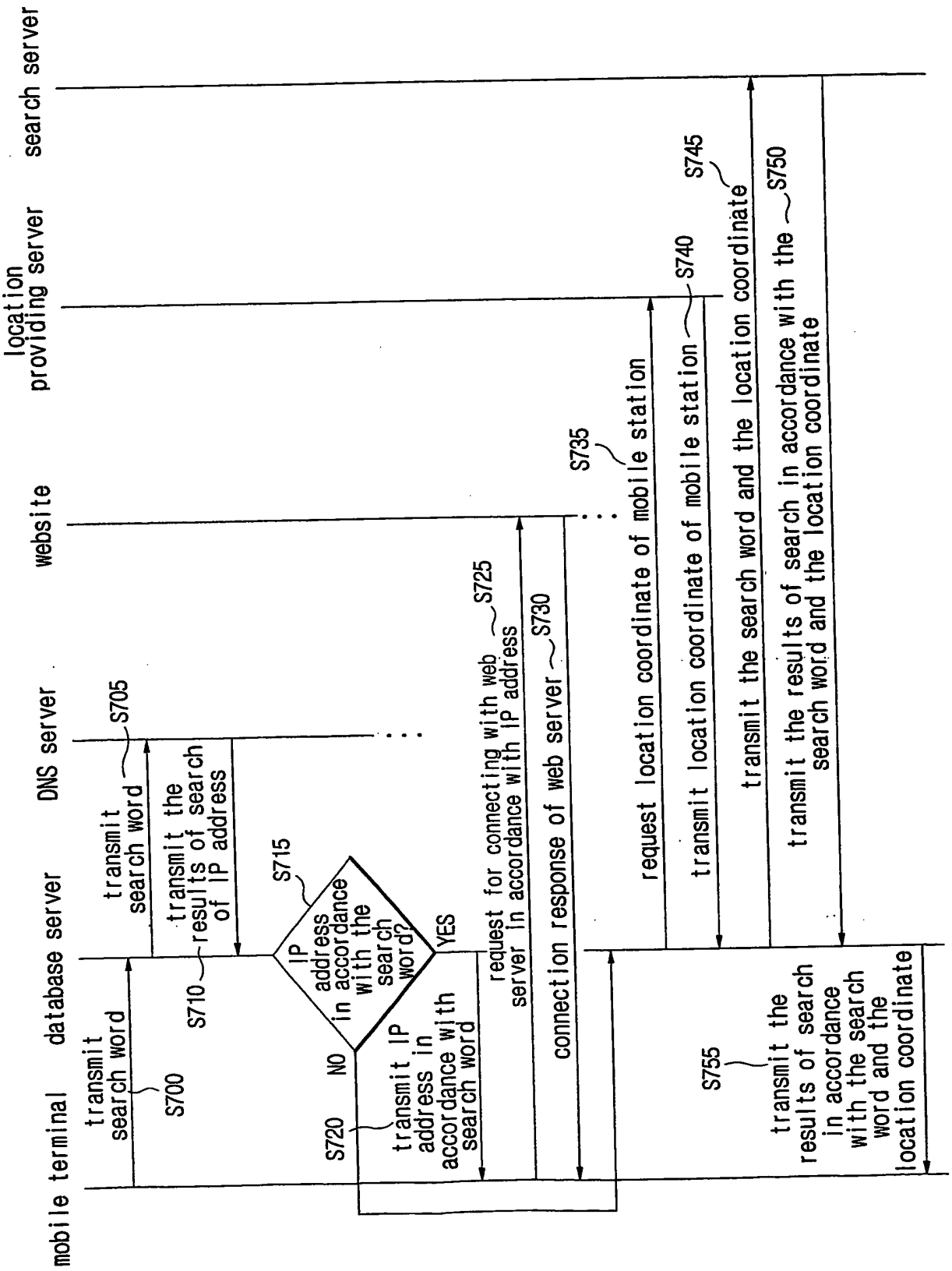
mobile terminal
database server
DNS server
website
location providing server
search server
transmit search word
S700
transmit search word
S705
transmit the results of search of IP address
S710
IP address in accordance with the search word?
S715
NO
YES
transmit IP address in accordance with search word
S720
request for connecting with web server in accordance with IP address
S725
connection response of web server
S730
request location coordinate of mobile station
S735
transmit location coordinate of mobile station
S740
transmit the search word and the location coordinate
S745
transmit the results of search in accordance with the search word and the location coordinate
S750
transmit the results of search in accordance with the search word and the location coordinate
S755

FIG. 8A

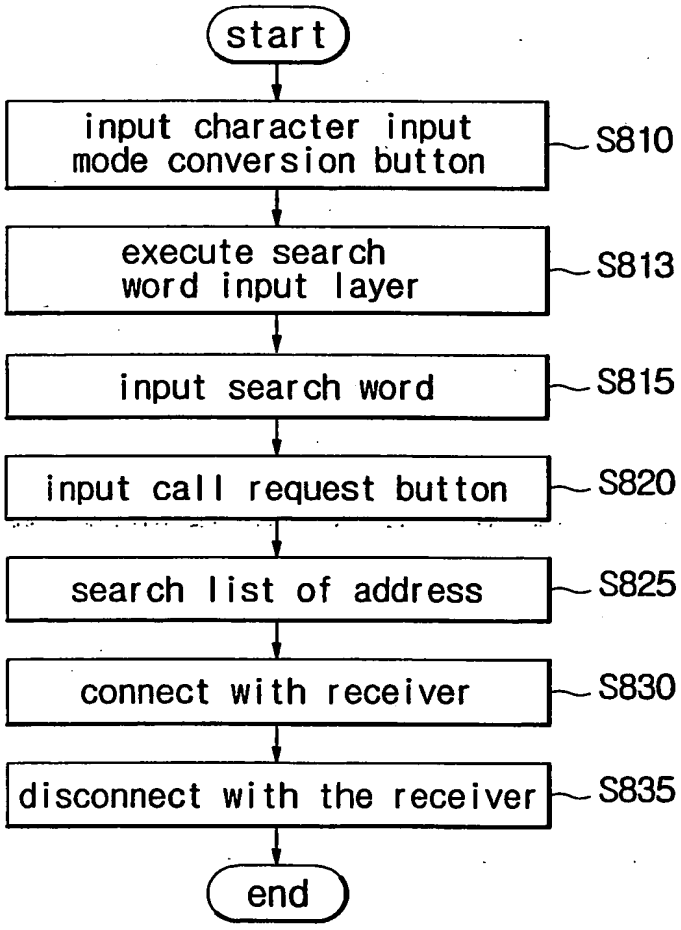
start
input character input mode conversion button
S810
execute search word input layer
S813
input search word
S815
input call request button
S820
search list of address
S825
connect with receiver
S830
disconnect with the receiver
S835
end

FIG. 8B

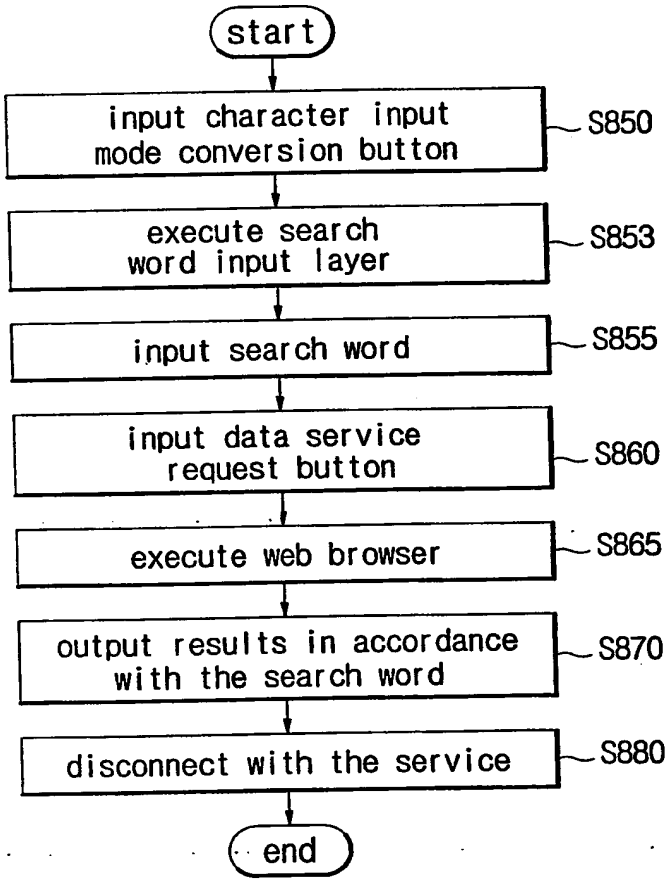
start
input character input mode conversion button
S850
execute search word input layer
S853
input search word
S855
input data service request button
S860
execute web browser
S865
output results in accordance with the search word
S870
disconnect with the service
S880
end

FIG. 9

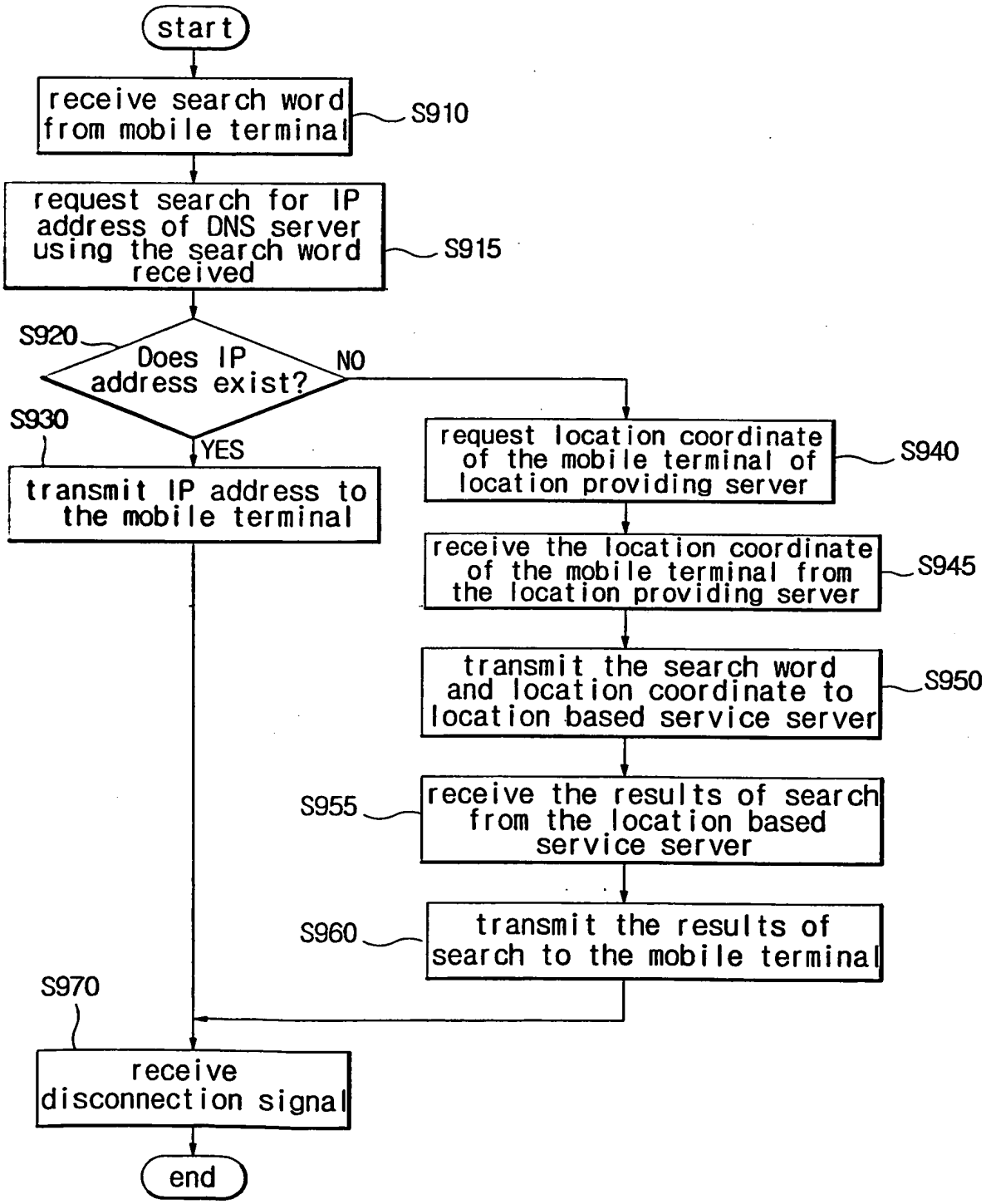


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FIG. 10A

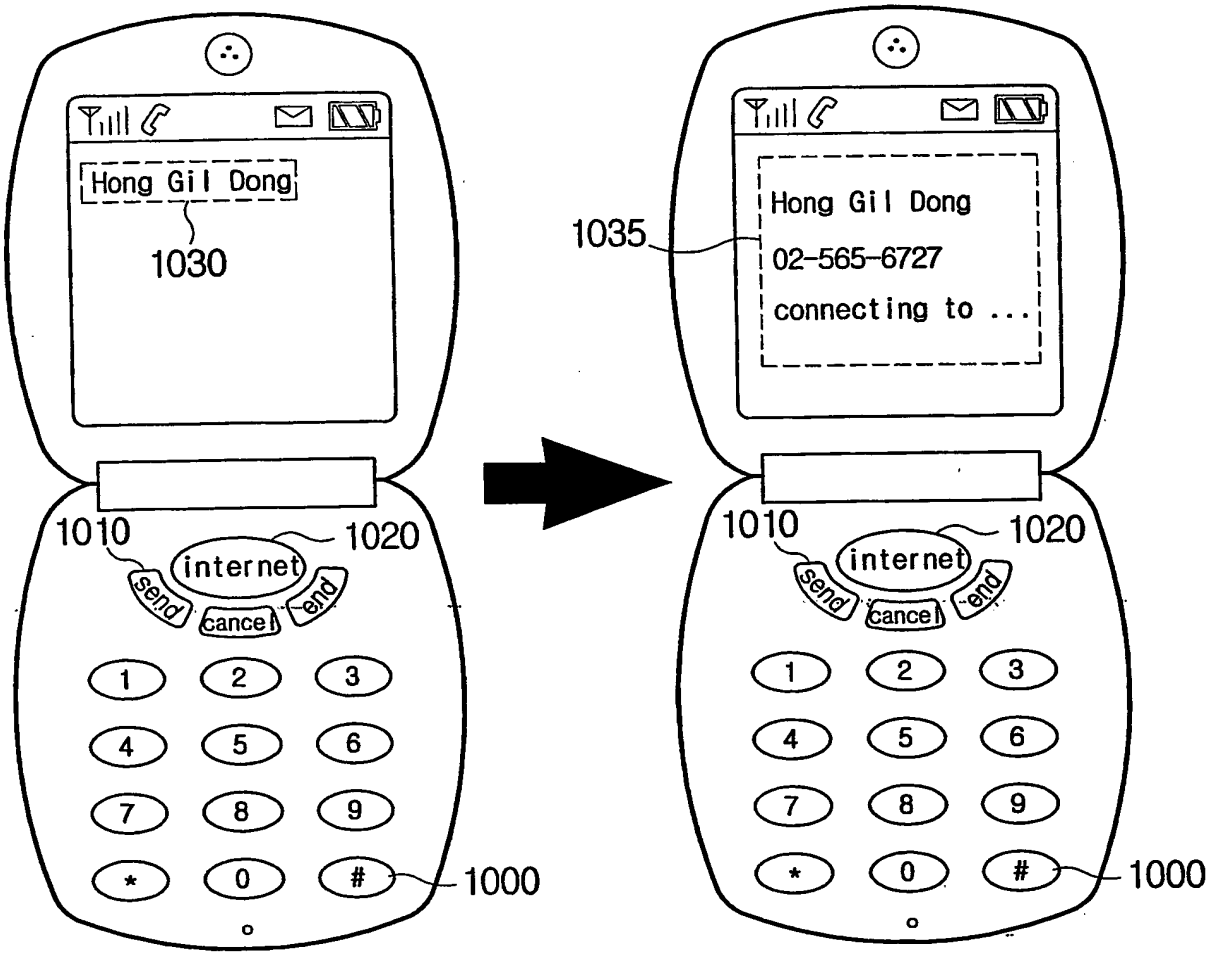
Hong Gil Dong
1030
1010
1020
internet
send
cancel
end
1
2
3
4
5
6
7
8
9
*
0
#
1000
1035
Hong Gil Dong
02-565-6727
connecting to ...

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FIG. 10B

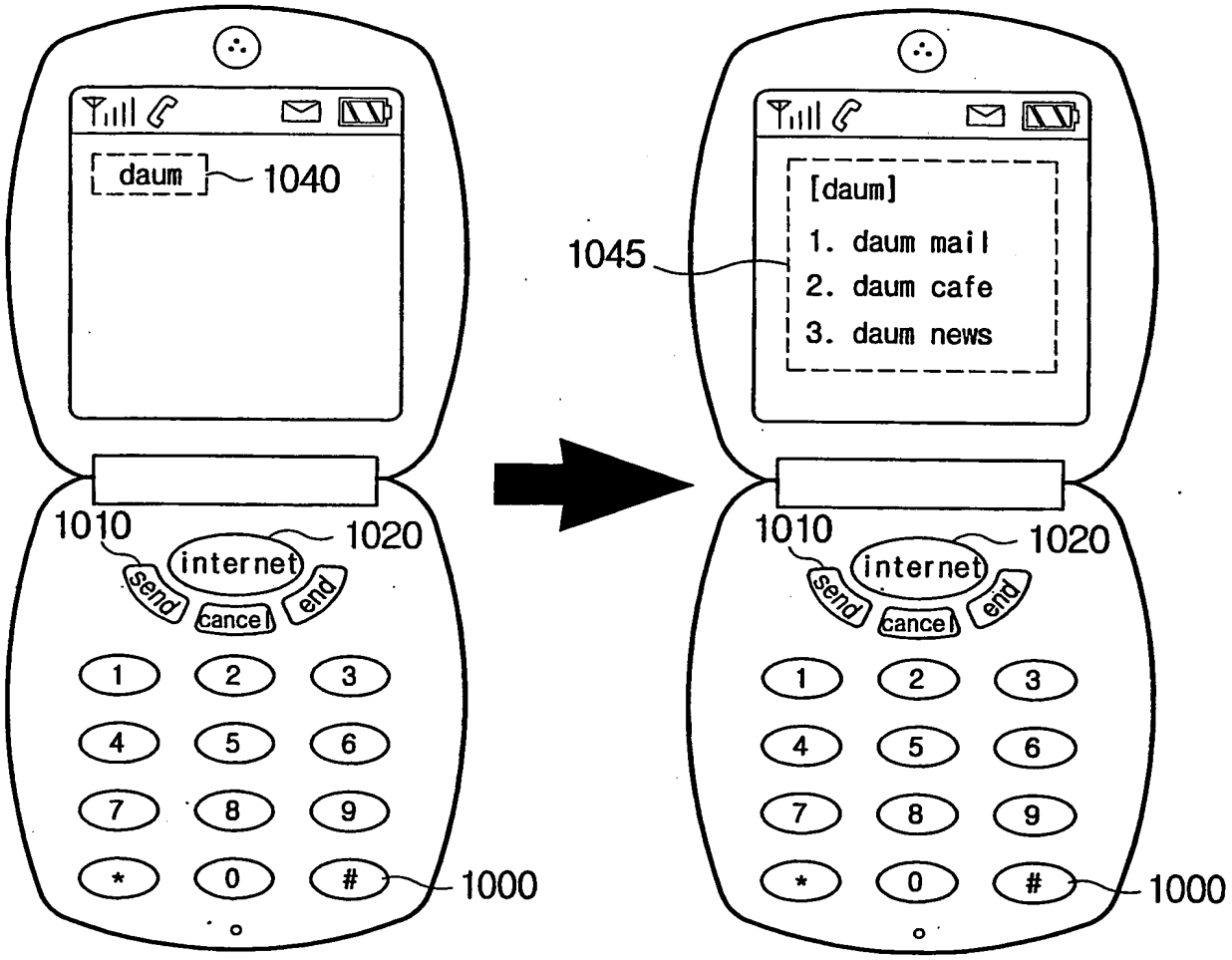


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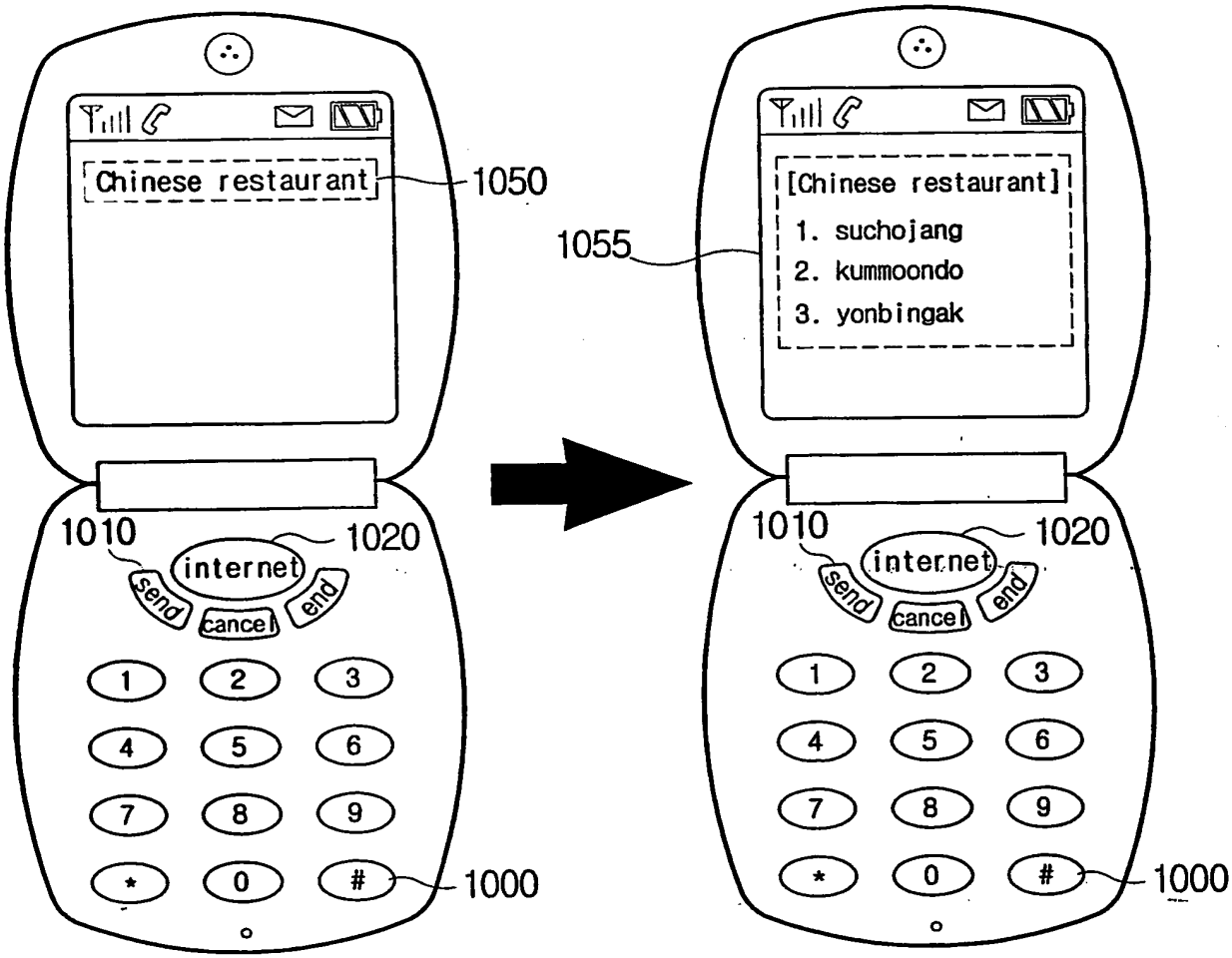
FIG. 10C


Chinese restaurant
1050
1055
[Chinese restaurant]
1. suchojang
2. kummoondo
3. yonbingak
1010
1020
internet
send
cancel
end
1
2
3
4
5
6
7
8
9
*
0
#
1000

# INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR03/00010

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H04L 12/00, G06F 17/30,

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC7 H04L 12/00, G06F 17/30, H04Q 7/38

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
KR, JP: IPC as above

Electronic data base consulted during the internationl search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X<br>Y | KR 2002-04110 A ( INFOBANK INC.) 16 JANUARY 2002, see abstract, claims No.1-2, Fig.2. | 1-11, 17-19<br>12-16 |
| X<br>Y | TW 463483 B (E-TRADE INFORMATION CORPORATION) 11 NOVEMBER 2001, see abstract. | 1-11, 17-19<br>12-16 |
| X<br>Y | WO 99/22488 A (D&I SYSTEMS, INC.) 06 MAY 1999, see abstract, claims. | 1-11, 17-19<br>12-16 |
| Y | KR 2002-15122 A (KT CORPORATION) 27 FEBRUARY 2002, see whole description, Fig.1,4 | 12-16 |
| Y | WO 02-05586 A (TELEFONAKTIEBOLAGET L M ERICSSON) 17 JANUARY 2002, see abstract, claims | 12-16 |
| A | WO 02-15051 A (VERISIGN, INC.) 21 FEBRUARY 2002, see abstract, claim No.1 | 1-11, 17-19 |
| A | JP 2002-354151 A2 (IDEFUNE TAKESHI) 06 DECEMBER 2002, see abstract | 1 |

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 24 APRIL 2003 (24.04.2003) | 28 APRIL 2003 (28.04.2003) |

Name and mailing address of the ISA/KR
Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea
Facsimile No. 82-42-472-7140

Authorized officer
BAE, Soon Goo
Telephone No. 82-42-481-5742

Form PCT/ISA/210 (second sheet) (July 1998)

BNSDOCID: <WO_____03061195A1_I_>

## INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR03/00010

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|---|---|---|---|
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| TW 463483 B | 11.11.01 | NONE | |
| WO 99/22488 A | 06.05.99 | US6061738 | 09.05.00 |
| | | JP2002-082856 A2 | 22.03.02 |
| | | EP1031222 A1 | 30.08.00 |
| | | CN1280734T | 17.01.01 |
| | | CA2307127AA | 06.05.99 |
| | | AU9648298A1 | 17.05.99 |
| KR 2002-15122 A | 27.02.02 | NONE | |
| WO 02-05586 A | 17.01.02 | NO 2000-3521 AO | 07.07.00 |
| | | EP 1300041 A1 | 09.04.03 |
| | | AU 0168014 A5 | 21 .01.02 |
| WO 02-15051 A | 21.02.02 | US 20020052591 A1 | 02.05.02 |
| | | AU 0184644 A5 | 25.02.02 |
| JP 2002-354151 A2 | 06.12.02 | NONE | |

Form PCT/ISA/210 (patent family annex) (July 1998)

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